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BAKER CEMENT RETAINER — SAVE A WELL

BAKER
CEMENT RETAINER

CASE STUDY NO. 407

PROBLEM: *To shut off wet zone behind slotted casing*

METHOD: *Bridge slotted interval with Baker Cement Retainer (as a Bridge Plug) and perform multiple-batch squeeze cement job with second Retainer equipped with 40' (drillable) tail pipe*

RESULT: *Complete water shut-off obtained*

• DETAILS •

Field: Maricopa, Calif.
Depth of Well: Approx. 3500'
Depth Retainer Set: 2475'
Breakdown Pressure: 100#
Final Pressure: 1st. batch- 100 Sax - 800#
Final Pressure: 2nd. batch- 100 Sax - 1500#
Number of Sax Put Away: 200
How Cement Discharged: Through lower end of Tail Pipe into 20' section Slotted Casing

Circulation Joint
18 Baker Cement Guide Shoe
Baker Cement Retainer Set 2475' (Equipped with 40' 2½ Drillable Tail Pipe)
13⅜ Baker Cement Float Shoe, 2502
Baker Cement Retainer (2523) Set in Slotted Casing with Cement Cap
Wet Oil Sand
Shale Break
Oil Sand
Blank Section Cemented Through Baker Cement Whirler
Float Collar with Solid Bottom Baffle, with Basket
Oil Sand
T. D. Approx. 3500

Use of Baker Cement Retainers to Blank Off Wet Oil Sand Behind Slotted Casing

THE BAKER CEMENT RETAINER has provided the solution to many Cementing, Well Repair and Well Completion problems confronting the modern operator . . . perhaps it will solve a particular problem confronting YOU. Complete details concerning its many practical field applications will be found in the Baker section of the Composite Catalog . . . also in Baker Broadcast No. 17-A, a comprehensive, 40-page illustrated treatise which will be sent to interested oil men upon request.

7

A Case Study of an Actual Well Repair Problem Solved By Using the Baker Cement Retainer

BAKER OIL TOOLS, INC.

Main Office and Factory, 6000 S. Boyle Avenue
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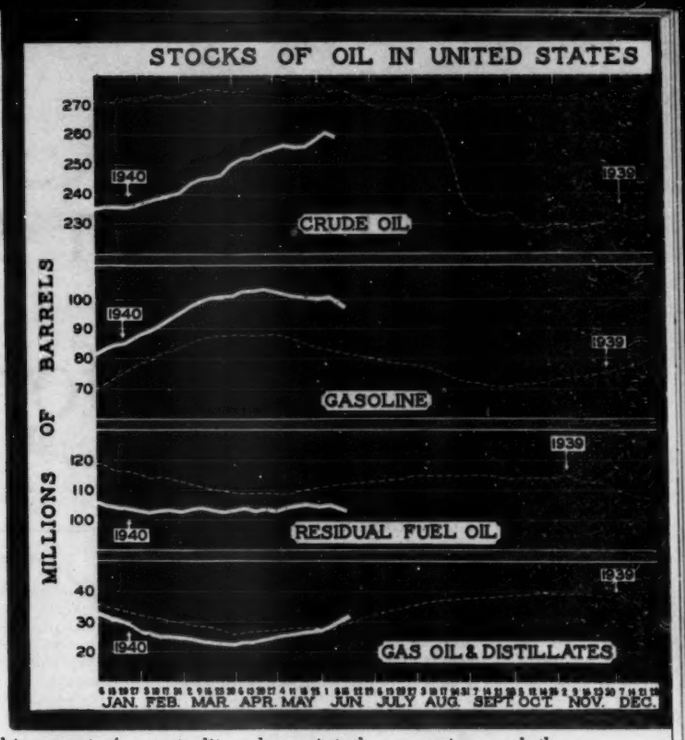
IMPORTANT CEMENT RETAINER APPLICATIONS INCLUDE:
Squeeze Jobs • Recementing • Cementing Behind Sections of Pipe • Reducing Gas/Oil Ratios • Series Cementing • Plugging off Bottom Fluids • Plugging Back to Upper Zones • Testing Upper Cased Formations • As a Heaving Plug • As a Bridge Plug at any Place in Casing or Liner • Open Hole Acidizing • Open Hole Squeeze Cementing

BAKER CEMENT RETAINER

Trends

Developments Over Entire World Have Significance to Oil



BOTH foreign and domestic developments contributed to a confused oil situation at the start of the week. In the expected complete capitulation of France to Germany, exporters in this country will lose another important European outlet, at least temporarily. While French refiners obtained most of their crude oil from Iraq and other sources of supply in that area, they also bought crude in this country and there was a steady movement of finished products to French importers. No official figures are available as to the total quantity of this export business to France, but it is estimated to have averaged around 35,000 bbl. daily in recent weeks. Shipments to France from this country and South America were canceled as a result of the war crisis. Reports indicate that exporters in this country, since the German offensive started in April, have lost business totaling more than 60,000 bbl. daily.

CRUDE PRODUCTION *3,818,998 bbl. daily average—up 10,066 bbl. One year ago 3,451,563 bbl.*

CRUDE STOCKS *259,706,000 bbl. as of June 8—down 1,956,000 bbl. One year ago 274,692,000 bbl.*

GASOLINE STOCKS *97,660,000 bbl. as of June 15—down 1,811,000 bbl. One year ago 82,374,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *104,419,000 bbl. as of June 15—down 247,000 bbl. One year ago 111,878,000 bbl.*

GAS OIL AND DISTILLATES *31,886,000 bbl. as of June 15—up 1,277,000 bbl. One year ago 29,709,000 bbl.*

REFINERY RUNS *3,620,000 bbl. daily week ended June 15—up 20,000 bbl. One year ago 3,480,000 bbl.*

Market observers are closely watching developments in the Mediterranean in the expectation that the closing of that oil-transportation artery may result in increased business that will more than offset the losses in export sales to western Europe. Great Britain's ability to continue the war and protect oil shipments, the French peace terms, possible revisions in this country's neutrality, depreciated currencies and the availability of tankers are all pending matters which will have a bearing on oil exports of the immediate future.

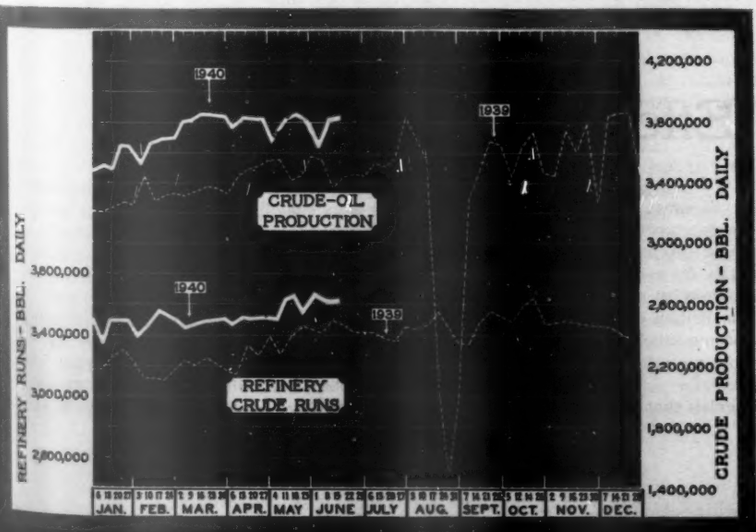
While they are apparently amply supplied with light-oil products, there has been some increase in the demand for the heavy oils from the Allies' navies. At the same time there has been improvement in the domestic demand for fuel oils. This has come largely from industries which are already benefiting from the defense program or which expect to within the next few weeks. As shown in the accompanying chart, this has resulted in a situation in which total stocks of heavy fuels are decreasing and the market has tightened at several points.

This development tends to complicate the problem of balancing crude oil and refinery operations. As revealed by the reports appearing weekly on this page, crude-oil stocks have been accumulating at a rapid rate, and the decline in gasoline stocks has been less than seasonal. The situation in regard to gasoline is particularly critical among the smaller refiners of the Gulf Coast area, and coastal gasoline markets generally are weak.

The second 25-cent reduction in Pennsylvania Grade crude was not a surprise to those in touch with eastern domestic and export markets for lubricating oils. The outlook is unfavorable as a result of the further restrictions in Mediterranean and western European markets.

DAILY AVERAGE PRODUCTION FOR WEEK

	June 15, 1940	Bur. Mines June est. of demand	June state allowables	June 8 1940
Oklahoma City	81,900	.....	.....	113,950
Seminole field	39,075	.....	.....	38,075
Remainder of state	285,675	.....	.....	283,325
Total Oklahoma	406,650	408,600	408,600	435,350
East Texas	396,996	.....	.....	396,690
West Texas	238,000	.....	.....	237,886
North Central Texas	138,750	.....	.....	145,604
Texas Panhandle	67,841	.....	.....	67,455
East Central Texas	83,756	.....	.....	81,100
Gulf Coast Texas	369,088	.....	.....	361,811
Southwest Texas	103,809	.....	.....	103,392
Total Texas	1,398,240	1,344,600	1,335,530	1,393,938
North Louisiana	69,065	.....	.....	69,180
Gulf Coast Louisiana	226,497	.....	.....	222,248
Total Louisiana	295,562	274,700	280,166	291,428
California	635,250	593,700	592,000	632,500
Kansas	170,650	159,000	178,000	150,950
Arkansas	71,605	66,700	70,517	71,515
Mississippi	10,750	7,000	.....	10,900
Eastern fields	106,500	106,400	.....	108,000
Illinois	478,491	395,600	.....	455,923
Michigan	56,690	62,000	.....	58,908
New Mexico	106,230	106,700	107,000	107,640
Rocky Mountain area	82,380	95,300	.....	91,880
Total United States	3,818,998	3,620,300	.....	3,808,932



French Armies Destroyed Before Giving Ground

By H. STANLEY NORMAN

NEW YORK, June 18.—All refineries in the German-occupied sections of France prior to the suit for peace instituted Monday have been destroyed or so seriously damaged at the insistence of French military authorities as to render them useless until rebuilt. The destruction and damage to refining facilities followed a plan preconceived by French authorities prior to and during the early stages of the German invasion.

Practically all petroleum stocks in the path of the German military machine had been removed to less vulnerable points in France or to terminals outside that country. The small percentage of normal stocks remaining at such important French ports as Le Havre were destroyed before the territory was relinquished to Hitler's troops, according to information reaching New York.

Movement of petroleum supplies from the Near East through the Mediterranean, or even around the African Continent to Great Britain will become increasingly difficult to protect if the French Navy is one of the prerequisites to peace demanded by Hitler.

Last fall when the war started France had 19 operating refineries as shown in the accompanying table. These plants had a combined capacity of 175,000 bbl. daily and until the German drive started in April all the plants were reported as operating with the exception of the plant at Pechelbronn near the German line.

The crude runs to stills of these French refineries previous to the war averaged approximately 115,000 bbl. daily. Their output supplied French petroleum requirements except for 15,000 to 20,000 bbl. daily of refinery products which were imported. Most of the plants were built in the late twenties and early thirties as the result of a policy adopted by the French Government designed to encourage the construction of plants in that country. Companies desiring to sell petroleum products in France were given advantages in regard to taxes and quotas if they supplied all or part of their requirements from plants located in France.

PETROLEUM REFINERIES IN FRANCE

Plant and location—	Capacity*
Compagnie Francaise de Raffinage, Gonfreville	36,000
Compagnie Francaise de Raffinage, Martigues	20,000
Compagnie Industrielle des Petroles, S.A.F., Frontignan-Sete	5,000
Raffineries de la Vacuum Oil Co., S.A.F. (Socony-Vacuum Oil Co., Inc.), Gravenchon	6,000
Compagnie des Produits Chimiques et Raffineries de Berre, Berre	10,000
Les Propetrol Consommateurs de Petrole, Donges	3,500
Pechelbronn Societe Anonyme d'Exploitations Minieres, Merkwiller-Pechelbronn	2,500
Pechelbronn-Ouest, Soc. Anon. (subsidiary of above), 4 Rue Roussel, Paris, Donges	5,000
Brest Port Petrolier (subsidiary of Pechelbronn Soc. Anon.), Brest	2,000
Raffinerie de Petrole du Nord, Dunkirk	10,000
Raffineries de la Vacuum Oil Co. (Socony-Vacuum Oil Co., Inc.), Port Jerome	6,500
Societe Anon. des Petroles Jupiter (Shell), Paullac	10,000
Societe Anon. des Petroles Jupiter (Shell), Rouen	15,000
Societe Lyonnaise de Schistes Bituminex (Shale), Autun	750
Societe de Raffinage des Huiles de Petrole (Anglo-Iranian Oil Co., Ltd.), Courcheletts	5,000
Societe de Raffinage des Huiles (Anglo-Iranian Oil Co., Ltd.), L'Avera	8,000
Societe des Raffineries de Petrole de la Gironde (Texas Co.), Bordeaux	6,300
Standard Francaise des Petroles S.A. (Standard Oil Co. of New Jersey), Port Jerome	24,000
Standard Francaise des Petroles (Standard Oil Co. of New Jersey), La Maillerave	(†)
Total France	175,550

*Barrels daily. †Reduced crude operation.

The completion of the pipe line connecting the Kirkuk field in Iraq to terminals located at Haifa, Palestine, and Tripoli, Syria, in 1934, was an important development having a bearing on French refining. Compagnie Francaise des Petroles, controlled by the French Government, is one of the four interests, each owning 23¾ per cent of the Iraq Petroleum Co., Ltd., which operates the Iraq property including the pipe line. The other interests are the Anglo-Iranian Oil Co., Ltd., Royal Dutch-Shell, and Near East Development Co., the American unit owned by the Standard Oil Co. of New Jersey and the Socony-Vacuum Oil Co., Inc.

Compagnie Francaise de Raffinage, the refinery-operating subsidiary of the Compagnie Francaise des Petroles, operates two of the largest refineries in France and all the other interests in the Iraq Petroleum Co., Ltd., have subsidiaries or affiliated companies operating one or more refineries in France. At the start of the war 40 per cent of the French imports came from Iraq, these shipments totaling approximately 60 per cent of the production of Iraq which averages 80,000 bbl. daily.

The next largest supplier of French imports of crude oil and refinery products has been the United States with prewar shipments averaging from 40,000 to 50,000 bbl. daily. South American countries supplied the bulk of the remaining imports into France.

As a group the French refineries were the most modern in Europe and except for the U.S.S.R. represented the largest capacity. With two exceptions all the operating plants have cracking equipment and several of the refineries are complete in their operations, manufacturing complete lines of lubricating oils. While the plants were largely built with French and European equipment and supplies they follow American design, incorporating processes developed in the United States.

There has been steady improvement in equipment facilities at several refineries, and over the past 3 years several million dollars has been spent in new processing units. The production of aviation gasoline and lubricating oils has been increased since the start of the war. The plants are in most cases operated by French skilled labor.

As indicated in the foregoing summary, Iraq will suffer the most from the shutdown of the French refineries. There are no other refining facilities in the eastern hemisphere which can readily absorb the Iraq crude production which has been going to the French plants. If the peace terms permit it is assumed that the owners of the plants will rebuild them. While this is being done it will be necessary for France to increase imports of finished products with the United States and South American countries, the logical source of these supplies.

When French light tank ran out of fuel the crew commandeered gasoline from private automobiles

Int. News photo

War's Effect on Oil Exports

ITALY'S participation in the European war on the German side will cause at least a temporary decline in petroleum exports from the United States in the opinion of oil-company executives. The view is based partly on past events resulting in destruction of Scandinavian markets and other invaded territory. The British demand for petroleum will have to become much greater than at present to make any material impression on United States exports.

The possibility still exists that Great Britain will be compelled to turn to the Americas for petroleum if the war is extended over several months. It is becoming increasingly evident that the Allies were far better prepared for war from a standpoint of petroleum reserves than in any other department of defense.

Italy's declaration of war brought an abrupt halt to petroleum shipments from this country. Italy has purchased directly this year an average of about 15,000 bbl. of oil daily in the United States. It has been moving about 15,000 bbl. daily from

Refineries

Mexico and substantial quantities were obtained in the Netherland West Indies.

In addition to loss of the Italian market the United States petroleum industry appears certain to sacrifice shipments to Balkan countries, Turkey and that part of the African Continent dependent on the Mediterranean for water transportation. Italy's tanker fleet of approximately 450,000 tons, the seventh largest in the world, was emasculated for all practical purposes when Mussolini entered the war. All Italian boats were ordered into the nearest neutral ports when war was declared. At least three Italian tankers are in New York waters and three or four were in Gulf Coast waters when they were ordered to seek neutral refuge. At least two boats were in Mexican ports.

Rumanian oil shipments to Italy were halted when Rome declared war. During the first 3 months of this year Rumania shipped about 190,000 bbl. of oil to Italy. This volume may now be diverted to Germany or it may move to Balkan markets previously supplied from the United States and other sources. It will be difficult, if not impossible, to maintain Rumanian petroleum shipments to Great Britain and its colonies, which amounted to approximately 2,280,000 bbl. during the first quarter of this year.

Small Neutral Movement of Oil

There has been practically no neutral movement of oil through the Mediterranean for weeks. Shippers considered the possibility of Italy joining Germany too big a hazard to risk boats and cargoes. One American company sent a boat through the Mediterranean to Balkan ports about a month ago, but it was the last reported voyage in that direction. Even with the protection the British naval units could supply, oil men in New York feel that movement of British tankers through the Mediterranean carrying oil from Iraq and Iran is much too dangerous. Temporarily, at least, belief is that British tankers will use the long route around the Cape of Good Hope. The feeling is that Britain has sufficient petroleum in storage to make the longer voyage possible without risking a shortage of fuel. The round trip from Abadan to English ports will require roughly 75 days compared to about 40 using the Suez Canal and Mediterranean. There is approximately 65 per cent of the world's tanker tonnage under direct supervision of the British Navy, sufficient to navigate the longer route until such time as stored reserves are depleted and prompter delivery is necessary.

The Russian steamer Sakalin, 9,500 tons, arrived at Constanza, Rumanian Black Sea port, on June 14 with a full cargo of lubricating oil for transshipment to Germany. This was the first such shipment of Russian oil arriving in Rumania for Germany in nearly 3 months, according to dispatches from Bucharest.

Indications are that Italy has around 7,500,000 bbl. of petroleum in storage. This is an average of the extremes of calculations that Italy has on hand 3 to 6 months' supply based on peacetime consumption of roughly 60,000 bbl. daily. There is general agreement on the difficulty Italy will have in obtaining oil unless her navy proves stronger than the British Fleet. There seems no possibility that Rumanian oil can continue to reach Italy and it goes without saying that entrance to Italy through Gibraltar will be denied by the British. Consequently, Italy seems to be shut off from all petroleum sources with the exception of about 3,000 bbl. daily produced within the country and in Albania.

Int. News photo

After British bombed oil stores at Dunkirk before evacuation

The movement of near eastern petroleum through the Mediterranean amounted to approximately 250,000 bbl. daily during the war period until Italy joined Germany. It is considered probable that restricted shipments may continue from Iran and Iraq to countries in the eastern Mediterranean if the British Navy can maintain supremacy.

Lower Production Necessitated

The longer water route around the African Continent, now constituting the only reasonably safe connection between near eastern producing countries and the British, will make necessary a reduction in production because of transportation limitations. Iraq will be the most seriously affected producing country since its only outlet is through a pipe-line system terminating at Haifa and Tripoli. It appears probable that the demand from Iraq will be reduced to requirements of the British naval units functioning in the Mediterranean and to fueling the mechanized equipment of the Turkish and British armies. It might be possible to move Iraq oil south through the Suez and then around the Cape of Good Hope, although from a time-consuming standpoint this trip would be less desirable than from Abadan, the terminal for the Iran producing fields.

Probably the most immediate effect of Italy's war declaration on the American oil industry will be the added competition with 15,000 bbl. daily of Mexican oil now available for other markets. This volume of Mexican oil formerly moving regularly to Italy will be pressing for another outlet immediately and it is probable it will displace supplies previously moving from the United States.

Rumanian shipping was ordered out of the central and western Mediterranean the day Italy declared war. The report from Bucharest indicated that shipping would continue to eastern Mediterranean ports, such as Istanbul, Haifa, and perhaps Alexandria.

Another result of the spread of the European war on the American oil business probably will be a reduction in the consumption of marine fuels. There were approximately 50 United States vessels in services that involved use of the Mediterranean, now closed to American boats. Not all of the boats will be retired for the duration of the war, but certainly the inability to reach such countries as Yugoslavia, Greece, Turkey, Syria, Palestine, Egypt, Tunisia and Algeria cannot but reduce trade. The countries listed, in addition to Italy and Albania, last year purchased goods in this country valued at $104,416,000 and they were the sources of United States imports totaling $101,168,000. Italy alone bought a total of $58,864,000 worth of goods from the United States and sold us $39,922,000 worth in 1939.

It is reported that the British Government placed large orders for fuel oil for the navy with companies in the Netherland West Indies when Italy entered the war. England is said, with further curtailment of civilian consumption, to have supplies sufficient for several months without further importations except for the navy which will be mostly refueled outside the United Kingdom.

Many of the oil terminals and storage plants are on the Channel ports and would be gravely endangered in case of a large-scale bombing invasion by the Germans.

Russian exports will depend largely upon whether the Black Sea and the Dardanelles are kept open. Extension of hostilities to the Near East, possibly involving Turkey, would be a determining factor.

SPARKS . . . FROM THE NEWS

REVIVAL: A veteran operator says present activity in North Texas and southern Oklahoma is reminiscent of the previous war period, when that area had one of the greatest oil booms in the history of the industry.

ACTION: The Nebraska sector of the Forest City basin is getting more action, with a major company and an independent group starting two wildcats in Richardson County, a half-dozen tests already under way in that county, and two being started in Nemaha County on the north.

ENCOURAGING: National-defense officials have indicated they are not concerned as to the oil industry's ability to do its part--their principal worry now is to get the planes and tanks to consume the oil.

EMPTY VICTORY: Reports indicate that German invaders are finding France's 19 refineries partly destroyed and the storage tanks empty.

DISCORD: Suggestions from Texas for a nation-wide shutdown of fields do not sound a responsive chord in Oklahoma, Kansas, and Arkansas, where they have kept their supply in balance with demand.

ALMOST PERFECT: Everything points to a smashing gasoline consumption this year. In fact, the most captious find only one defect on the market, to-wit: the prices don't pay the cost of manufacture and marketers claim they need wider margins.

IT'S THE WEATHER: Rising temperatures and sunny skies seem to have inspired Kansas operators to greater efforts, some 50 new tests, including 15 wildcat and extension wells, being started this week.

WORTH IT: United States motorists bought 32,000,000 gal. of antifreeze preparations last winter and paid $50,000,000 for this radiator protection. That's one reason the financial statements of alcohol concerns have a cheerful look.

LUBRICATED MARKET: The second 25-cent cut in Pennsylvania Grade crude has no more significance to the oil industry generally than did the series of advances in 1938 and 1939. The ups and downs of the lubricating-oil markets determine the Pennsylvania schedules.

PATIENTS' ATTITUDE: In regard to the present overproduction situation in crude oil and gasoline there is agreement as to the diagnosis and the needed remedy. The trouble lies in the fact that all the patients refuse to take the prescribed medicine.

INTERNATIONAL: Operators attempting to gage the present and future of their business are now watching developments in the Old World as closely as those in this country.

ONE BENEFIT: The critical war situation has reduced gasoline exports, but by keeping summer tourists in this country it will aid domestic gasoline demand over the next 90 days.

SHOOTING DISTANCE: Illinois, with a new record output of 478,491 bbl. daily last week, is within shooting distance of the half-million-barrel output projected by many at the start of the year. Centralia is responsible.

SLOW DECLINE: The prophets who optimistically maintained that once refiners started to reduce their gasoline stocks the decline would be more rapid than last year should look at the comparative charts—the opposite is true.

INTRODUCING NEW PETROLEUM PRODUCT

The rubber "bottleneck" in America's defense program will be eliminated by the expansion of new processes for the production of synthetic rubber from petroleum. Picture shows Ameripol, compounded from oil, soap and water by Dr. W. L. Semon (center), for David M. Goodrich, chairman (left), and John L. Collyer, president of B. F. Goodrich Co.

New Discovery May Change Output of Illinois Fields

By HARRY F. SIMONS

JUST as disturbing as the peak Devonian production from the Centralia field of 74,000 bbl. which forced the state's production to a new high of 478,491 bbl. per day last week, was the announcement that a new and deeper pay horizon had been discovered in the basin area. This time it is the Trenton limestone (Ordovician) which was shown to be productive when Ames & Hicks' No. 1 Brown, Lot 10, Block 5, Second Home Addition, city of Centralia, Section 12-1n-1w, Clinton County, produced 113 bbl. of oil in 17 hours with some water last week. The water may be coming from the formation or it may be the result of the reaction of 3,500 gal. of acid with the formation.

The test, located practically in the heart of the Centralia pool and just north of the Devonian discovery in the field, was started the latter part of April but has been delayed several times. The test found the Maquoketa shale between 3,825 and 3,850 ft. and got the top of the Trenton lime shortly after passing 4,025 ft.; the pay was encountered at 4,032 ft. and extended to 4,067 ft. Four and one-half inch casing was run to 4,032 ft. and the well acidized with 1,000 gal. after which it swabbed and flowed 113 bbl. oil and no water in 16 hours; reacidized with 2,500 gal., it made less oil per hour and some water.

The well gives those who predicted deeper production for Illinois a chance to say "I told you so," while it is causing others to reexamine the situation and see just what effect the new discovery will have. The well as it now stands is not as good as the Devonian discovery well in Centralia field which made 767 bbl. initially; this well, completed late in December 1939, is now making less than 30 bbl. per day. If the Trenton lime declines as rapidly as the Devonian, better wells than the new discovery will be needed to attract the operators to drill below 4,000 ft. in Centralia and 4,500 ft. in Salem.

Increased costs are the deterrent to deeper drilling in the state at the present time as most of the Illinois operators have literally been spoiled so far as investing large sums is concerned. Since the development in the state started, investment costs have been going up but many of the operators are used to investing $10,000 to $15,000 in wells above 2,000 ft., and before they risk $35,000 on a Trenton well they will at least look longingly at the good old days.

Many of the operators also realize they have been very fortunate in boosting the market for Illinois oil and are afraid of crowding their luck too far. With a demand for about 450,000 bbl. in the state, many producers feel they would rather fall a little short of that mark than swamp the market with flush oil from the deeper and more expensively developed pay zones.

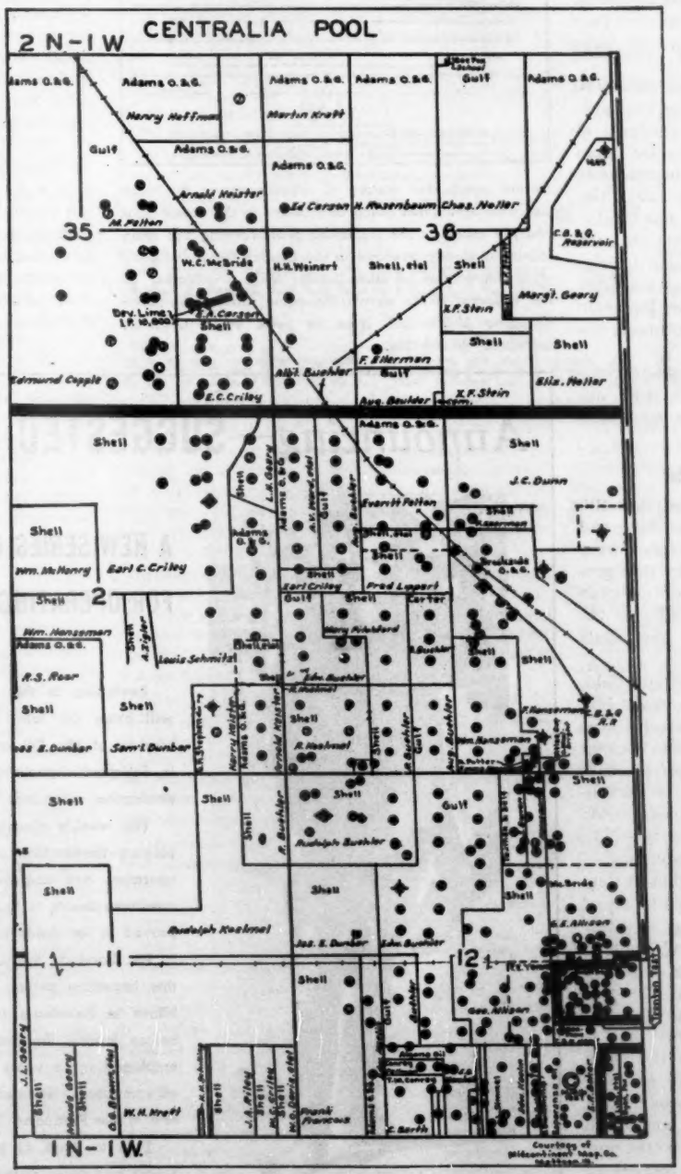
Several weeks ago it was announced that Paul Rossi would drill a Trenton test on his Brooks lease in Section 29-2n-2e, in the Salem field but, up until late last week, there were no indications the well would be drilled to the Trenton and Rossi's office announced that it would not go to that formation. This may mean that the Salem operators will wait until Devonian production has declined in the Salem and Centralia fields until they begin drilling deeper.

The reaction in the Centralia field to the discovery is still uncertain. Many of the operators are rushed with the drilling development of the Devonian and have no desire to see another fast drilling campaign in the near future. Other operators have their money tied up in Devonian wells, some of which will be a long time paying out, and they are not in a position to take care of more drilling development at this time.

Much will depend on whether another test is drilled to the Trenton and how large a well it makes. The Devonian in the southern part of the Centralia field was not impressive and operators proceeded with caution until some big wells were completed in the northern part of the field. Since that time, work has speeded up and some of the Devonian wells in Sections 1-1n-1w and 35-2n-1w, are comparable to the best wells in the Salem field. Last week, Shell Oil Co., Inc., completed its No. 11 Criley, W½ SE SE Section 35-2n-1w, for an estimated 11,000 bbl. daily. The well actually produced 6,110 bbl. in 13¼ hours after a 5,000-gal. acid treatment; Devonian pay was at 2,785-94 ft. and the well made 360 bbl. in 3 hours before receiving the acid treatment.

Just how widely distributed the Trenton production may be is still a matter of conjecture as there is not enough known of this formation in Illinois to make forecasts possible. The only production from this formation at present is in the Dupo field, St. Clair County, where approximately 1,000,000 bbl. have been recovered since 1928. The Trenton at Dupo is very permeable, resembling the Viola of the Mid-Continent, according to A. H. Bell of the Illinois Geological Survey.

The Dupo field has an area of 670 acres which gives it the unimpressive recovery per acre of 1,400 bbl. However, the field is shallow, wells averaging between 600 and 650 ft. in depth. There are 46 wells still producing of the 258 wells drilled in the field and these are averaging a little over 4 bbl. per day. A large quantity of water accompanies the oil, one of the wells recently completed making over 10 times as much water as it did oil. The production is from the Kimmswick lime (Ordovician) which is about 50 ft. thick. The oil is found



Map of the Centralia pool showing location of Trenton discovery and of the W. C. McBride, Inc., well which made an initial production record for the field only to be exceeded in production by the Shell Oil Co., Inc., well to the south

a little way in from the top of the formation.

The only other areas in Illinois to obtain commercial oil from the Trenton are in Clark County, on the eastern side of the state, where 12 wells in the Westfield pool and one in the Martinsville pool obtained some production, and in Monroe County, where the Waterloo field, now abandoned, recovered 166,000 bbl. from 125 acres. The formation in Clark County was tight and did not make a good pay zone.

There is some small Trenton production in Michigan and the Trenton rock is one of the best known formations of the northwest Ohio-northeast Indiana fields where it has shown some good recoveries over a wide area. Some of the wells in the Lima-Indiana area were quite large, the better ones ranging from 1,000 to 3,000 bbl. daily at completion. When it is remembered that these were natural flowing wells and that acid treatment was unknown when they were completed, it is seen that at least in one area the Trenton was quite prolific. (The Oil and Gas Journal, Jan. 4, 1940, p. 18).

The name "Trenton" was applied to the Ordovician limestones of Illinois because of the record of this reservoir in Ohio. There is little similarity between the two formations other than that they are both limestones of approximately the same age.

At the present time the best indication of the extent of the Trenton is given by the Devonian development in the state which is confined to fields along the trend influenced by the Du Quoin anticline. Good Devonian production has recently been found in the Salem, Tonti, Centralia, Sandoval, and Bartelso fields in Marion and Clinton counties and there are good indications that the Devonian may contain oil in the Dix and Louden fields in Jefferson and Fayette counties. Elsewhere in the state, attempts to obtain Devonian production have not been rewarded, although the possibilities have not been exhausted.

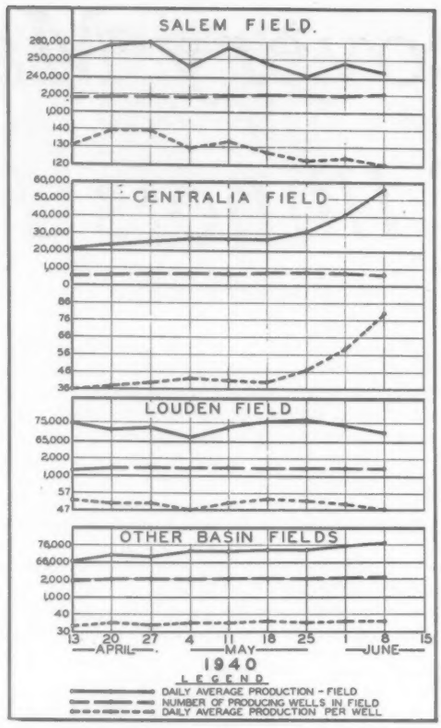
The increasing number of tests drilled to the deeper horizons may result in more deep discoveries but results in the basis proper have been disappointing to date.

Recent Production Trends

Several months ago it was predicted that Illinois would pass its production peak in June and then would decline unless some good fields were discovered. This was based on the fact that production was dropping rapidly in the Devonian wells in the Salem field and the flush was expected to be off these wells before new wells and new fields could be drilled.

Forecasters underestimated the Centralia field, which was given a peak of 30,000 to 35,000 bbl. The production last week from Centralia was more than twice the predicted amount, causing the figure for the state to jump approximately 16,000 bbl. over the previous week. A curtailment of the production from other basin fields and a reduction in Salem production was partially balanced by an increase in Louden production.

Unless the area of Devonian production in Centralia is extended beyond the productive limits of the Benoist, Centralia will be at its peak in a few weeks, if it is not already there, and will begin to decline. The Devonian wells are being produced at capacity and will fall off rapidly. The pay thickness at Centralia is only half that at Salem and the decline should be much quicker than it has been in the latter field. Some of the wells in Centralia are encountering two pay sections, one at about 2,900 ft. and the other approximately 25 ft. deeper; taken together these two zones give a pay thickness of about 20 ft. In the better portions of the pool, the Devonian pay averages 12 ft., while in the poorer areas it averages about half that amount. The pay in Salem averages around 24 ft.



Recent production history of Illinois shows the daily per well production going downward in the Salem pool, sharply rising in the Centralia pool, varying but maintaining a steady average in the Louden field and gradually increasing in other basin fields. Production for the different fields shows the same thing with Salem dropping 20,000 bbl. from its peak while Centralia increased 40,000 bbl.

At the present time approximately 40 per cent of the state's production is coming from the Devonian lime, making the average production of the Devonian wells about 300 bbl. per day. The chart showing production, number of wells and daily average production per well for the state's four principal areas illustrates the effect of the lime production as Louden and other basin fields show a substantial figure for the per-well production, while the Salem and Centralia fields show a per-well decline in the former and an increase in the latter area.

Salem at the present time is producing at capacity and some operators in the field are attempting to increase their production. The Devonian at present is producing about 66 per cent of what it was when the field was at its peak. That little dependence can be put in the Devonian for sustained production is evidenced by the fact that there are a large number of wells completed in the upper pay zones each week. In some cases, wells in the Benoist and Aux Vases sand are better than the wells completed in the more recently discovered Devonian.

Aside from the Devonian development and the Trenton discovery, principal interest in the state is centered in the southeastern portion of the basin, Wayne, White, Hamilton, Edwards, and Wabash counties, where some interesting discoveries have been made in recent months and in the Richland-Jasper County area where Pure Oil Co. recently opened a new pool half way between the Boos and Dundas fields. The completion of new wells in these areas accounts for the small but steady rise in the amount of production listed under "Other Basin Fields." Once the Centralia Devonian starts to decline this production will not be sufficient to offset it and some new development will be needed. The Trenton lime may get a chance to show its possibilities before the year is out.

Announcing—SUGGESTED FIELD PRACTICES

T. P. SANDERS

A NEW SERIES OF PRACTICAL DISCUSSIONS FOR OPERATING MEN

Beginning in this issue, T. P. Sanders, associate editor, will bring the latest improvements in oil-field practices to readers of The Oil and Gas Journal. The series of articles is designed especially for those in charge of drilling and production operations.

The weekly discussions will be brief, but complete, employing illustrations and calculations of practical value to operators and engineers. They will appeal particularly to men who desire to keep abreast of practices that have been proved in the fields or discussed in oil literature.

Mr. Sanders' varied experience qualifies him to prepare this important series. He holds the degree of Engineer of Mines in Petroleum from the University of Minnesota and before joining the Journal's editorial staff in 1936 he was employed for 5 years in Mid-Continent fields by two major oil companies. He is editor of the Drilling Equipment Directory and of the Producing Equipment Directory.

Turn to Page 43 for the first article, discussing "Recognizing and Overcoming Gas Lock in Pumping Wells." Additional articles will appear weekly in the Engineering Section.

Texas "Emergency" Localized To Special Export Allowables

AUSTIN, Tex., June 18.—Warning that Texas must reduce oil production more than 100,000 bbl. daily because of the collapse of foreign markets, and suggestions that the cut can be made by taking off special allowables made for foreign contracts and only minor state-wide reductions or limited shutdown periods, were made to the Railroad Commission at an emergency proration hearing Tuesday.

Harold Neely, of Iron Mountain Oil Co., an independent, suggested that if Texas operators had to take a 35 to 50-cent-per-barrel cut in oil to "force other states to curtail, we'd better do it."

Todd Lee Wynne, American Liberty Co., another independent, predicted the loss of approximately one-third the current market of 1,315,000 bbl. daily in oil and refined products.

All speakers stressed an impending serious condition caused by huge accumulations of gasoline and of crude oil stored in the Gulf Coast region, much of it gained through special allowables to meet foreign orders that no longer are in effect.

Mr. Wynne predicted "federal regimentation of oil by the end of this week," but this was sharply controverted by Hines Baker, of Humble Oil & Refining Co., and by Charles I. Francis, who told the commission an excessive shutting down of oil production would be the most likely cause of federal intervention.

Mr. Wynne said Texas has 6,000,000 bbl. less oil storage than last August, but 20,000,000 bbl. more gasoline in storage.

Hines Baker quoted figures that Texas crude storage has gained 12,800,000 bbl. since last January 1, while increases in the United States as a whole for the first 4 months of the year had been 19,500,000 bbl. He said the nation's stock of gasoline as of June 1 was 101,000,000 bbl. Mr. Baker computed that various factors indicated a possible decrease of 100,000 bbl. daily from present Texas production. He said no estimate can be made how much of the oil shut off from France may be bought by England. He urged that no extended shutdown be ordered, because of interference with operating and shipping schedules.

He favored readjustments for parity between fields, but said that of the present excess accumulations 22,000 bbl. daily is from West Texas, 25,000 from East Texas, 13,000 from the Gulf Coast, and 25,000 from the rest of the state.

C. L. Lester, Dallas, East Texas operator, urged that the 14-day-per-month shutdown in East Texas be not increased "until you have equalized the rest of the state."

Charles I. Francis, Houston, speaking for Crown Central Petroleum Co., insisted no emergency existed for such drastic treatment as proposed by Mr. Wynne. He said a 15 to 30-day shutdown would further federal control "more than anything else" at present.

Mr. Francis said the present condition can be corrected by changes cutting off the special allowables in the Gulf Coast and other fields created by foreign demand in the past, and by a slight overall reduction for the state.

"This emergency," he insisted, "is in the speculation of a few operators who got caught in the market."

The hearing was to be continued at length, the trend of speakers being to insist on the cutting back of special allowables, and a limited overall curtailment of state production.

Frank Buttram, president of the Independent Petroleum Association of America, telegraphed urging a program of orderly reduction.

The commission agreed to start Wednesday a district-by-district check of purchasers' nominations, as the basis of any order revising present allowables.

THE MARKETS*

CRUDE OIL: The feature of the last week's 3,818,998-bbl. daily production of crude oil in the United States was the continued rise of production in Illinois which increased 22,566 bbl. a day to a new peak of 478,491 bbl., caused mainly by big Devonian lime wells in the Centralia field. A 25-cent cut in the price of Pennsylvania Grade crude was made effective June 18.

REFINERY: Although new high records in gasoline consumption are in prospect, tank-car prices display little or no likelihood of going higher. Rising demand for heavy fuel oil presents an encouraging feature of the refinery market. Heating oils sagging, with particular softness in the water-white and prime-white distillates and range oil. Kerosene and natural gasoline weak. Lubricating oils easy on both the Mid-Continent and eastern markets.

TANK-WAGON AND POSTED-DEALER: Standard of New Jersey increased its dealer tank-wagon price of gasoline 1.65 to 2.45 cents a gallon at points in North Carolina. Continental made local adjustments at points in the Rocky Mountain region, and Socony-Vacuum in New York and New England. Socony-Vacuum made general changes in kerosene, in most cases reductions.

FINANCIAL: Oil issues, participating in the upward movement of the general market, scored advances on a broad front. The group used as an index in this department closed 1.24 points above its close in the preceding week. Average of 30 representative stocks for week ended June 15: High, 21.91; low, 19.52; close, 21.42. Week ended June 8: High, 20.58; low, 19.39 close, 20.18.

*Detailed information in market section.

War May Delay Plants at Cayuga and Long Lake

FORT WORTH, Tex.—Carter-Gragg Oil Co. of Palestine is reported to have postponed plans to erect gas-recycling plants in the Cayuga and Long Lake fields of Anderson and Henderson counties.

O. L. Gragg, president, said present war conditions had led his company to postpone action and it will await developments before proceeding with construction. The company has not let any contracts.

In the Grapeland Woodbine sand gas pool the Lone Star Gas Co. and Trinity Gas Corp. have put into operation the first partnership gas-recycling plant in the Houston County area. This is the seventh plant to start in the Houston and Anderson County area. Lone Star's No. 1 Moody, in the Parker Survey, will serve as the intake well.

Pipe-Line Valuations In Texas Increased

AUSTIN, Tex.—The state Tax Board set the preliminary intangible value of the Atlantic Pipe Line Co. at $5,318,000 for 1940. Preliminary values for Texas pipe lines for the current year thus reached $51,070,900, compared with a final value last year of $46,134,480.

Magnolia Petroleum Sustained In Labor Board Case

NEW ORLEANS, La.—The Magnolia Petroleum Co. of Dallas won a decision in the fifth U. S. District Court of Appeals in an appeal from a National Labor Board order.

Hydrogenation as Factor in Aviation-Gasoline Output

LAFAYETTE, Ind., June 15.—The potential supply of normal aviation gasoline can be greatly increased by utilization of the hydrogenation process, Dr. E. V. Murphree, vice president of Standard Oil Development Co., declared in an address before the Midwest regional meeting of the American Chemical Society here today.

Reporting research carried on in collaboration with E. J. Gohr and C. L. Brown, of Esso Laboratories, Dr. Murphree asserted that the yield of motor gasoline and domestic heating oil can also be expanded by substituting hydrogenation for thermal cracking, at least to a large degree.

"It is possible by hydrogenation, or addition of hydrogen, not only to convert a large fraction of crude to high-quality aviation gasoline but also to extend greatly the number of crudes which can be utilized," Dr. Murphree said. "Formerly it was necessary to obtain these fuels by distilling out a small fraction from carefully selected crudes of limited availability.

"Hydrogenation of polymers, or compounds produced from petroleum gases, offers one means for production on a commercial scale of aviation fuels which, when containing normal lead additions, have octane numbers well above 100.

"The hydrogenated material may either be utilized directly as an aviation fuel or may be blended with normal aviation gasolines to produce a fuel of the 100-octane number grade. By hydrogenation it is possible to produce high-flash aviation gasolines which have been termed 'safety fuels' and which with normal lead addition have octane numbers of 100 or more.

"The yield of motor gasoline and domestic heating oil can be increased from 70 up to 92 gal. per 100 gal. of typical crude. With the present crude prices, the saving in crude due to higher yields is offset to a large degree by the somewhat higher operating costs and investments of the hydrogenation process. With increasing crude-oil prices, hydrogenation will become increasingly attractive."

Hydrogenation may also be utilized for producing high-grade kerosenes and diesel fuels and for various intermediate refinery processes, Dr. Murphree continued.

"In all these applications," he added, "the hydrogenation process is in competition with either direct production of the products from crude or with alternate processes for converting the crude oil into the desired products. In general, the utilization of hydrogenation for these purposes will become increasingly attractive as the crude-oil price rises.

"Although unimportant at present because of the abundant supplies of crude available to the United States, the use of hydrogenation for converting low-grade crude bottoms and high-boiling asphaltic refinery residues into valuable light products is of interest, as these applications of hydrogenation will all result in saving of crude oil.

"Hydrogenation is therefore of potential value in keeping the price of finished petroleum products at a reasonable level in case crude supplies become less readily available than they now are. This situation has actually developed in Europe and many hydrogenation processes which are uneconomic in the United States are commercially practical there."

Prof. Homer Adkins, University of Wisconsin, spoke on "The Role of Catalyst in Hydrogenation." Catalysis, he said, is concerned with the influence of one molecule upon the behavior of another molecule. A catalyst accelerates or causes a reaction to take place.

"This definition," he said, "assumes that two molecules, such as those of hydrogen and ethylene, do not react with each other except under the influence of a third substance, such as nickel. The catalysts for hydrogenation apparently function by combining with the hydrogen and with the compound to be hydrogenated.

"The only successful way of finding out whether a given compound or combination of compounds is a good catalyst for a particular reaction has been to 'try it out.'"

Red River Counties Spurred By New Discoveries

By DAL DALRYMPLE

WHEN the Pure Oil Co. opened the Cumberland pool in Marshall County, Oklahoma several weeks ago it started leasing, exploration, and development activity that has spread over a wide area in the southern part of the state and which may extend to all Red River counties before the momentum engendered by the discovery is exhausted. Recent discoveries on the Texas side of the river is proving an added incentive for Oklahoma operators to seek oil in the southern counties.

The leasing play centered around the Cumberland discovery area immediately following the oil strike, but much of the region already had been closely leased and the lease buyers were forced to range far afield in their quest of open acreage. Their activity has extended from Marshall County into Bryan, Johnston, Atoka, Choctaw, Coal, Carter, Love, Murray and Jefferson counties. The discovery, coupled with developments in the Frederick district of Tillman County, also was an incentive for the land men to seek unleased and favorably located acreage in several of the southwestern Oklahoma counties.

During the early part of 1939, after extensive geological and geophysical work, the Pure company acquired an elongated block of approximately 23,000 acres centering in Section 28-5s-7e, Marshall County, and extending in a northwesterly and southeasterly direction from this point. The block's farthest northwest extension is in Section 3-5s-6e, and covers portions of Townships 5s-6e and 7e and Townships 6s-7e and 8e, extending southeast to Section 28-6s-8e. Lying largely in Marshall and Bryan counties, with a small sector in Johnston County, the block is approximately 15 miles long and 5½ miles wide.

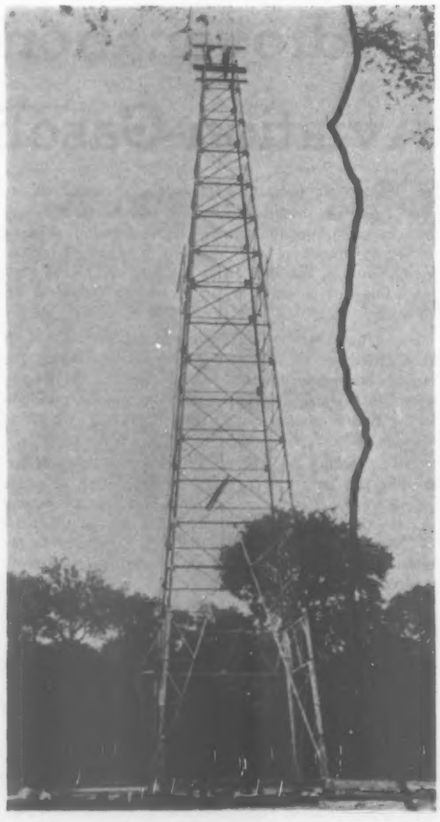
Credit for assembling this extensive block goes to Quintin Little, 37-year-old native of Madill, county seat of Marshall County. He had been in the leasing business for several years, previously having assembled or assisted in assembling several blocks in western and southwestern Oklahoma. When the Pure company officials decided their geologic information justified exploration by the drill, they turned to the Madill lease buyer to assemble the acreage for them. They knew what they wanted, outlined it on a map, gave Quintin Little the map and authorized him to go to work.

It was a big job, one that could not be completed in a month or several months. The Madill man was not unduly impressed by the extent of the task set him, so, supplied with unlimited funds, he went to work calling upon the farmers and landowners, many of whom he had known all his life. Sixteen months later he had completed the job and turned the block to the Pure company. He had spent approximately $200,000 for the leases.

Leasing of the land for the big company wasn't all that the man from Madill did. Admitting that he "played a hunch," based in part on his knowledge of the company's geology and in part on his own information, he looked after his own interests as well as those of the company. Starting with exactly nothing in his own name, Quintin Little owned in fee or had the mineral rights to 17,000 acres when his work was done. Leases on his fee lands naturally were turned to the Pure, along with other tracts. Since the discovery well was drilled he has sold more than enough of his mineral rights to pay off indebtedness he had incurred in buying the land, and he still owns some 14,800 acres of mineral rights.

"Other lease buyers had played the Madill and Preston anticlines and had neglected the area around Cumberland, Marshall County village," Mr. Little related. "But I had a hunch, coinciding with the Pure's information, that the Cumberland area would pay off. Magnolia Petroleum Co. drilled a wildcat in Section 26-5s-7e in 1926, going to 2,195 ft. with cable tools and getting several good showings of oil. Another test was drilled in Section 16-5s-6e, going to 2,100 ft. and having several showings. Several shallow wells drilled in the area over a period of years also gave indications of oil. None of the early tests were producers, but I figured that if they had been drilled with modern equipment and with benefit of geophysical information some of them would have been oil wells. It looked good to me when I started out to assemble the Pure's block and now that the Cumberland pool has been found, it looks better than ever."

Near the close of 1939 the Pure Oil Co. began development of its block, drilling the first well on one of the tracts bought in fee by the Madill man. It was the No. 1 Quintin Little A, C W½ NE SE Section 28-5s-7e, near the center of the block and on the Marshall County side of the Washita River that separates Marshall and Bryan counties. It checked high structurally, found oil in the Tulip Creek sands topped at 4,952 ft. and 5,088 ft., and was completed in those pays recently for a daily potential of 4,542 bbl. of oil, although it was drilled to a total depth of 5,640 ft. before plugging back and testing. The oil tested 37.4° gravity. Gas gaged as high as 25,000,000 cu. ft.



Above: Pure Oil Co.'s No. 1 Stewart A, Section 28-5s-7e, is one of two wells being drilled on the Bryan County side of the Cumberland pool. Left: The Cumberland pool is 7 miles from a bridge and the Washita River, boundary between the Marshall and Bryan County sectors of the pool, is narrow but deep. Workmen rigged up a temporary ferry out of four empty oil drums as a means of crossing from one location to another

Lease Play

For a few days after it became evident the wildcat would be a producer, there was a fast and furious lease play in the vicinity of the Pure block. The Sun and Skelly companies were the only other lease owners in the area besides Pure at the beginning of the activity, but they were not alone for long. The Stanolind and Amerada companies had assembled a block south of the Pure acreage; Johnson & Kemnitz Drilling Co. and McGraw Oil Co. had some leases west of Aylesworth and southwest of the Cumberland area, but the bulk of the new buying extended southeastward from the discovery area into Bryan County. The new buyers included Sinclair Prairie Oil Co., Phillips Petroleum Co., Magnolia Petroleum Co., Atlantic Refining Co., Grisso Royalty Corp., Ohio Oil Co., George W. Deck, S. and D. Daube, Winona Oil Co., Gulf Oil Corp., Deep Rock Oil Co., McElreath & Suggett, Anderson-Prichard Oil Corp., Wirt Franklin, Oxford Oil Co., Wise Drilling Co., and other companies and individuals.

All close-in acreage soon was taken, and the buying spree was extended to neighboring counties and is continuing at a more conservative pace in Red River Valley areas afar from the discovery well. Acreage leased includes several tracts of state school lands and Indian lands of the Five Civilized Tribes. It was estimated that some 250,000 acres were leased in the early weeks of the

QUINTIN LITTLE

This Madill man spent 18 months assembling Pure Oil Co.'s block in the Cumberland area, and bought land in fee or mineral rights to 17,000 acres in his own name. The discovery well was drilled on one of his leases

play, that acreage now being considerably increased. Many leases have not yet been filed for record. Prices have ranged from $5 to $75 an acre, although many leases were taken for $1 an acre in the early stages of the activity.

A considerable portion of the Pure block, including the discovery location, practically all of the Stanolind-Amerada block, the Johnson & Kemnitz-McGraw lease, and other tracts south of the Cumberland pool are in the area that will be flooded when the Denison Dam on the Red River is completed. As completion of the dam and impounding of Red and Washita River waters is a matter of about 5 years, it is expected that development of the area to be flooded will have been completed before the land is submerged.

It appears certain that development will not be delayed. The Pure company already has started four additional tests around the discovery, as follows:

The No. 1 Quintin Little B, NE SW SE Section 28-5s-7e, and No. 1 W. L. Thomas A. SW NE NW Section 28-5s-7e, Marshall County; and No. 1 Stewart A, SW SE NE Section 28-5s-7e, and No. 1 Park College, SW SW SE Section 27-5s-7e, Bryan County. Noble Drilling Co. has contract for two of the wells, using electric rigs; Olson Drilling Co. and Loffland Brothers Drilling Co. have contracts for the other wells, using diesel power.

The Pure company has storage facilities of 23,000 bbl. on the block, and is erecting two additional tanks of 55,000 bbl. capacity. The company has announced no plans for a pipe-line outlet. Nearest connection to a line is at the Texas Co.'s pump station at Armstrong, about 15 miles eastward. Pure's nearest line is at Van, Tex. Should the company decide to extend its Van line to Cumberland, it would give the pool an outlet to the Gulf of Mexico.

The Oklahoma Corporation Commission has authorized 20-acre triangular well spacing for the Cumberland district, on application of the Pure company. The order covers about 30,000 acres in Marshall, Bryan, and Johnston counties. Other than to provide for setting of 800 ft. of surface casing to protect the shallow fresh water horizons, the order did not fix regulations for setting pipe.

Numerous improvements are under way in the area. A field camp is being built in Section 29-5s-7e. Roads are being improved and a survey has been made for a bridge across the Washita River, which divides the block. As the discovery well is some 8 miles from the nearest bridge, workmen use a temporary ferry constructed of empty oil barrels in going forth and back from locations in Marshall County to those in Bryan County. An electric substation has been erected in the field, telephone lines are projected, and other improvements are under way.

Madill in Marshall County and Durant in Bryan County are the larger towns in the area, and have been the principal scenes of activity. New residential additions have been opened at Madill, and many supply companies have obtained locations for stores along the railway right-of-way in that town.

Drilling activity in Marshall County is not confined to the Cumberland area, two wildcats being drilled elsewhere.

Johnson & Kemnitz and McGraw Oil Co.'s No. 1 Neff-Godfrey, SW SE NE Section 14-6s-6e, west of the village of Aylesworth, is due to test Arbuckle lime. It claimed attention recently when oil appeared in the hole, coming from an unidentified source, but efforts to develop commercial production by acidization were unsuccessful. It was bottomed at 4,582 ft., and plugged back to 3,809 ft. when operators decided to test the oil showing. Hole was being reconditioned and drilling was expected to be resumed soon.

The other Marshall County wildcat is the May Oil Co.'s No. 1 Sacra, SW NE SW Section 17-5s-5e, northwest of Madill. It had a sand at 1,120 ft., with gas estimated at 6,000,000 cu. ft., and was bottomed at 1,132 ft. at time of writing. Operators are seeking production at around 1,700 ft., but the hole may be drilled below that level.

Other wildcats being drilled in southern Oklahoma, or soon to start, include:

T. E. Kirksey Drilling Co.'s No. 1 Baskett, SW SE SE Section 7-3s-10e, on an Atoka County block comprising most of Sections 7 and 18-3s-10e.

Holly and others' No. 1 Johnson, NW NW NE Section 36-3s-16e, southeastern Atoka County, shut down at 990 ft. on last report.

Thompson Brothers' No. 1 Richardson, NE SE SW Section 10-3s-9e, near Boggy Depot, western Atoka County, on a block assembled early in the year.

Clyde Ross and others' No. 1 Hardy, SE SE NW Section 21-7s-15e, near the Red River, southwestern Choctaw County.

Wildcats in southwestern Oklahoma are being drilled in Cotton, Comanche, Stephens, and Tillman counties.

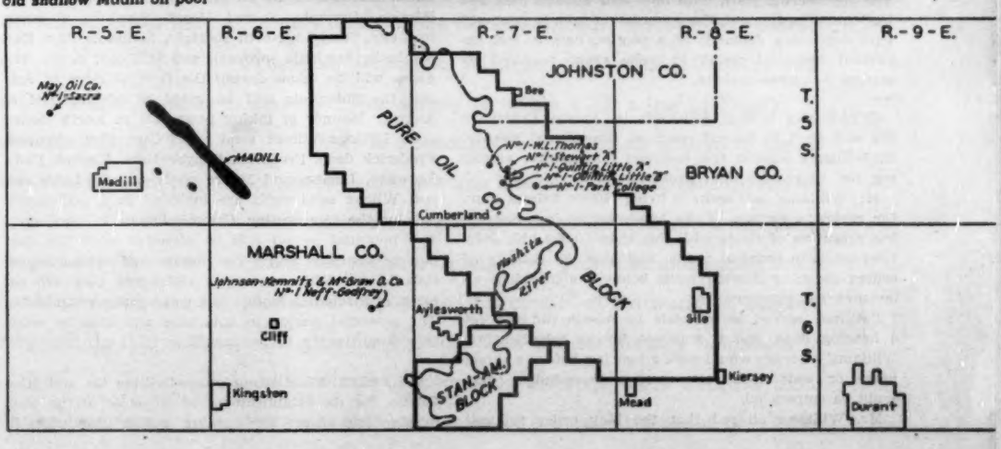
Several other proposed wildcat tests in the southern tier of counties are at the rumor stage, and some of them are due for definite announcement within the near future.

Numerous geological crews are studying the Red River Valley area, seeking favorable locations. Surface geology, seismograph, magnetometer, and soil-analysis methods of study are being used.

Discovery of oil at Cumberland was not the first time petroleum was found beneath the surface of Marshall County. It has been classed as an oil and gas-producing county for the last 31 years, all production being from shallow sands, however. The production of oil has been chiefly from the Madill pool, 1½ miles east of the town, in Sections 13, 14, 24, and 25-5s-5e, and Section 30-5s-5e. The gas production in the county is concentrated chiefly in the south-central part near Enos. Oil also is found in the Enos pool and the nearby Isom Springs and Kingston pools. Production usually is from sands at around 400-500 ft., with initial production ranging around 10 to 20 bbl. daily. Several small producers were completed in the Isom Springs area in 1937-38, but there has been little development of the shallow zones in the last 2 years.

Right: Marshall County has been producing oil from shallow sands for 31 years. This picture shows one of the shallow wells near Madill

Below: This map of the hot spot in southern Oklahoma shows approximate location and shape of the Pure Oil Co. block, discovery and drilling wells; the Stanolind-Amerada block; location of two Marshall County wildcats, and the old shallow Madill oil pool



STATE CAPITALS...

TEXAS

A COMPLETE SURVEY AND MAPPING of the oil and gas fields of Texas was ordered on Saturday by the Railroad Commission of Texas as a national-defense measure, and for the better administration of conservation laws. All three of the commissioners approved the work, to be financed out of funds in the oil-enforcement account.

After approving the financial outline prepared by Chief Supervisor John E. Taylor, of the Oil and Gas Division, Chairman Lon A. Smith and Commissioner Thompson urged Taylor to his utmost efforts and directed him to communicate with E. B. Swanson of the Oil and Gas Conservation Division of the Department of Interior to determine if he has additional information of data the Government might want so that it could be added to the survey, which will be the most complete ever made of Texas fields.

A part of the compilation will be the preparation of an individual map of each Texas field, of which there are more than 525. Mr. Taylor said the work could be done by the Oil and Gas Division's drafting department with $10,000 to augment its staff and equipment.

Another important feature will be a laboratory analysis of crudes produced in each field. That is needed to determine the types of gasoline produced from various crudes. Arrangements now have been made, Mr. Taylor said, "for use of one of the best laboratories in the state" in making the tests. He estimated $3,500 would be needed to secure additional engineers and equipment, as the present personnel is insufficient.

In addition to the new data, the survey calls for all pertinent statistics concerning a field to be annotated on the map of the field. Much of that information, such as cumulative production and estimated reserves, has been assembled for the Oil and Gas Division's annual report.

The commission also applied to the Limitations Payment Board for permission to use other surplus income to the oil-enforcement fund, which is created by a special levy of $\frac{1}{16}$ cent a barrel on oil. The application totaled $36,520.

An estimated surplus of $250,000 at the end of the fiscal year, next August 31, will revert to the treasury from the special tax after payment of all appropriations for the Oil and Gas Division, it was estimated. Already the levy had yielded $10,967 in excess of the $697,962 annual appropriation for the division, with an additional $80,000 due and payable by June 25 on May production.

Reductions in appropriations fell heaviest on vital technical phases of the commission's activities, the petition recited, resulting in seriously hampering the work. The engineering staff, with only half enough men and inadequate equipment, the commission said, is swamped with day-to-day demands of a routine nature, and important technical work, in some cases required by statute, has gone undone.

CITATIONS WERE SERVED in Austin Friday in the suit filed in federal court at Houston of Herbert E. Williams against the Railroad Commission attacking the Fairbanks field proration order.

Mr. Williams' suit seeks to bring before federal court for review a section of the conservation law restricting proration of fields with less than 10,000 bbl. daily production to physical waste, and also the validity of orders reducing flowing wells below the marginal allowance for pumpers.

Petitions served on officials in Austin did not set a hearing date, and it was not known whether Mr. Williams' attorney would seek a hearing before a single judge or wait until fall when a three-judge court could be empaneled.

Mr. Williams alleged that the May order reduced allowable for his wells to 27 bbl. each daily, while the marginal allowance for pumpers of 6,850 ft. in depth was 30 bbl., causing discrimination. With 271 wells in the field, he also attacked proration of production there on market demands or transportation facilities, contending the statute restricted the commission in fields of less than 10,000 bbl. daily production to proration only on physical waste. The May 1 allowable was 7,300 bbl., less reductions effected by the 1-day state shutdown.

MICHIGAN

MICHIGAN SUPREME COURT has under advisement one of the state's most interesting oil royalty cases, involving $1,000,000 and affecting owners of 96 parcels of land in the Midland County oil field.

The case was appealed from a decision of Midland Circuit Judge Ray Hart. Docketed in the name of Glenn R. Hathaway, representing landholders and lease owners, the plaintiffs seek to recover the royalties which they claim were withheld by Porter Royalty Pool, Inc., principal defendant. The pool was organized in 1932 by David S. McCutcheon and Clarence Bangs to handle royalty collections from 4,000 acres. Purchasers of the oil were Pure Oil Co. and Simrall Pipeline Co. The money is held in escrow.

Arguments to the Supreme Court had two essential surmises: Based on the question of whether the "dry holers" were entitled to share in the royalties on the basis of contracts making them "joint adventurers" in a single business venture; or whether the "wet holers" were right in disregarding the contract on the ground it allegedly violated a Michigan Securities Act provision and in refusing to recognize other parties whose lands were unproductive. The latter contention had been upheld by Judge Hart.

Under the Circuit Court decision chief beneficiary was Mrs. Mina B. Keyworth of Eaton County, who owned about a fourth of the royalty pool. Plaintiffs charge the promoters, McCutcheon and Bangs, kept 25 per cent of the royalty-pool value for themselves, which is held to be illegal and excessive.

OKLAHOMA

POTENTIAL TESTS will be taken early in July in the Allen, Earlsboro, Fish, Grayson, Hazel, Konawa, South Konawa, Little River, East Little River, Maud, Mission, Olympic, Sacred Heart, Sasakwa, Sasakwa townsite, Searight, North Searight, Seminole City, East Seminole, Seminole (proper), and St. Louis pools. The gages will be taken during the first 15 days of July and the potentials will be rated as of the first of August. Manner of taking potentials in North Bethel pool, Billings Wilcox sand pool, Carr City, Edmond, Frederick deep, Frederick Canyon lime, Keokuk Falls, Shawnee, Lucien, and Moore pools and St. Louis second Wilcox sand wells are included in a notice sent out by the Corporation Commissioners to producers. The potential period will be effective until the first day of January 1941. The manner of taking potentials in the Wilcox zone in Oklahoma City are set forth in a separate notice sent out by the commission. The potential period in this case will also be effective from July 1 to January 1.

ON PETITION of Droppleman Drilling Co. and Mico Oil Co. for the establishment of an order of the commission for 10-acre well-spacing and drilling units in the Cromwell sand in Okfuskee and Seminole counties, the commission ordered that in the Droppleman pool Cromwell sand wells be spaced at 10-acre locations. This affects all of Section 34-12-8, west half of Section 35-12-8, and parts of Sections 2, 10 and 11-11-8 and all of Section 3-11-8.

LOUISIANA

A STANDARD OIL CO. representative told a committee of the Louisiana Legislature that the company might build its proposed synthetic-rubber plant in Houston instead of Baton Rouge if an administration tax measure is adopted.

The ways and means committee took under advisement the measure, which would require corporations paying salaries or dividends to nonresidents to withhold 6 per cent of all amounts over $1,000 a year as a guarantee the state would collect income tax on it. After the tax was paid, any surplus would be returned to the nonresident.

The committee voted to recommend passage, however, of the administration's general increase in income-tax rates on middle and upper-bracket incomes of individuals and corporations and a special 5 per cent surtax on profits from income from speculative and mineral deals.

T. J. Milling, general counsel of the Standard Oil Co. of Louisiana, said:

"The company could just as well build at Houston, where the Humble Oil Co. has necessary byproducts available and there is plenty of cheap gas."

Mr. Milling added the Standard Oil Co. of New Jersey had acquired German patents for the synthetic rubber and said it might become vital because of cutting off of natural-rubber supplies during the war.

THE HOUSE WAYS AND MEANS COMMITTEE agreed upon a compromise in the administration's bill which as introduced would have eliminated entirely the 3 per cent arbitrary allowance given on gasoline-tax payments by oil companies.

The committee agreed upon an allowance of eight-tenth of 1 per cent in the place of the 3 per cent allowance now being given. As introduced the bill would have provided approximately $500,000 additional gasoline-tax revenue and as amended will produce about $375,000 additional.

It was the third concession made by the administration on tax proposals, others being withdrawal of the income-tax provision on earnings made in Louisiana by nonresidents and the announced decision to scale the "hidden sales tax" provisions from the occupational license tax.

ARKANSAS

ARKANSAS OIL AND GAS COMMISSION will meet at El Dorado on June 20 for the purpose of allocating allowable production to the several prorated pools of the state in July. The Atlanta, Buckner, Big Creek, Dorcheat, Magnolia, and Village pools in Columbia County; Buckner in Lafayette County; Fouke in Miller County; Lewisville in Lafayette County; and Schuler, in Union County, will be affected.

CALIFORNIA

A NUMBER OF PRODUCING COMPANIES are anxiously awaiting the arrival of June 30 because by that time they should know whether they have a market for their crude-oil production. Last month Union Oil Co. served notice that at the end of 30 days it would cancel purchase commitments for crude oil. Field reports indicate that Shell Oil Co. has also notified several producers that it would not purchase any crude oil after June 30, 1940. No one seems to know what it is all about and in the absence of any announcement from the purchasing companies involved, the action must be taken at its face value. Most of the notices served affected those contracts which required 30 days' notice of cancellation.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Ace in the Hole

That part of the Western Hemisphere not already engaged in the war has overnight become concerned about national defense.

The success of the Reich military machine has brought fears as to what may happen in this hemisphere should it become attractive to powers bent on world dominion.

This country and its neighbors to the south are taking stock of what resources they have for use in protecting their position in a world in which the balance of power is changing rapidly.

In the confusion that has arisen and the planning for armament on a parity with that of any possible invader, it is probable that many will overlook the advantages that this hemisphere can use effectively if their value is fully appreciated.

The most important single advantage of the New World is its surplus of petroleum.

In Europe there is a 60 per cent shortage of oil and, exclusive of Russia, that continent has to look to other areas for 80 per cent of its petroleum requirements.

Africa has a five-to-one shortage, and Australia is entirely dependent upon other continents for its petroleum supplies.

Asia has a surplus, but not sufficient to offset the deficits of its neighboring continents.

The greatest weakness of the Old World is this 130,000,000-bbl.-a-year shortage in petroleum supply. The greatest strength of the New World is its ability to supply that deficit.

No matter how efficient or aggressive the war machines of any single country or combination of countries may become, there is nothing they can do that will quickly change this situation.

The hundreds of millions that have been spent in fruitless search for oil in Europe is evidence of the fact that oil is to be found only where nature has placed it. Petroleum substitutes, because of their high cost, are not a competitive answer to this problem.

The discovery and production of petroleum in new areas always have been accomplished by prolonged search and development periods, and the results have shown that special training and experience are necessary to carry out a successful search for new oil reserves.

Because the industry was founded in this country and because nearly two-thirds of the world's output is still produced and consumed within its borders practically all of the new tools and processes used in the discovery, production and manufacture of petroleum products have been developed by American technicians.

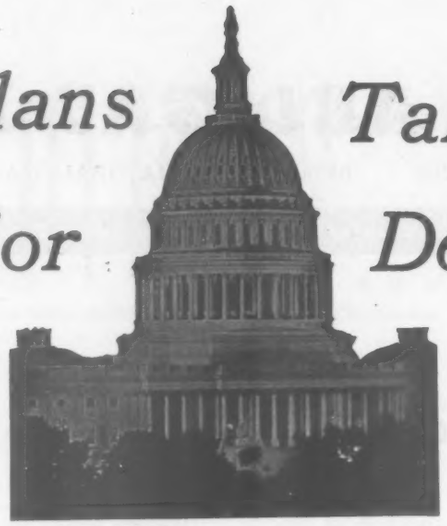
Essential as petroleum has been in this war, to both sides, it will be even more necessary in rebuilding the Old World in whatever form it is cast. Regardless of the issues of the present conflict, petroleum will be the power around which the future will revolve.

The Eastern Hemisphere does not have very many places to look in making up its 25 per cent deficiency in petroleum supply.

The surplus crude-oil supply in this hemisphere largely fronts on the Caribbean Sea, coming from Mexico, Trinidad, Venezuela, Colombia and the Gulf Coast of this country. This supply is within 2,000 miles of Florida.

Here is a resource essential to all nations in times of peace and war which has been given to the Pan-American nations by private enterprise largely emanating from this country. Adequately protected and encouraged to further expansion, this control of the world oil surplus will give the United States and its friendly neighbors a defense and a bargaining leverage more effective than any possible expansion of armament without it.

Defense Plans Taking Shape In Interior Department



By HENRY D. RALPH

WASHINGTON, D. C., June 17.—The effect of the big national-defense program on the oil industry is a subject to which government officials are giving very little thought at present. An increase in the number of ships, airplanes, tanks, and motorized armored divisions will eventually require a substantial increase in consumption of petroleum products for military purposes, but at present it is impossible to make any estimates of the size of this increase.

Meanwhile the National Defense Advisory Commission and the other agencies of the Government are perfecting plans to expedite fulfillment of Army and Navy orders and otherwise gear American industry to the efficient completion of the defense program. The Defense Commission is constantly adding to its staff of business experts but so far has not called on any petroleum executives, indicating that at present the commission feels that the petroleum industry can supply all military and civil demands without interruption of normal business routine. This body will not decide defense policies but will advise and assist both industry and Government in getting defense orders filled as promptly as possible.

The president this week designated a research committee to mobilize science for national defense to work in cooperation with the National Defense Advisory Commission and the scientific agencies of the Government, and the technical services of the Army and Navy. It is headed by Dr. Vannevar Bush, president of the Carnegie Institution of Washington, and will coordinate all scientific research necessary for defense except that which is already being handled by the National Advisory Committee for Aeronautics. The N.A.C.A. already has a technical subcommittee on airplane fuels and lubricants which includes experts of a number of oil companies and which will continue to advise the Army and Navy on aircraft engine and fuel problems as it has been doing for several years.

Ickes Names Defense Committee

SECRETARY ICKES moved into the defense picture this week with the announcement that he is mobilizing the Department of the Interior on a national-defense basis. He appointed a seven-man defense-resources committee "to cordinate department efforts and to cut through any routine procedural difficulties in order to expedite the defense program." He ordered his staff and the committee to insure immediate right-of-way for all activities involving national defense and to assist any agency of the Government engaged in any phase of the defense program.

Oil enters into Secretary Ickes' new committee directly through the membership of George Holland, director of the Petroleum Conservation Division, who was appointed to supervise oil supply, production and handling. It is explained that the present purpose of the committee with respect to oil is to get all bureaus and sections of the department prepared to assist in the defense program or any other emergency immediately whenever called on by bringing together all the specialized knowledge of the various members of the department's staff. It is planned that whenever the president, the military services, the Defense Advisory Commission, or any other agency should desire any information about oil or any other natural resource the Interior Department's committee will be in position to give complete information and advice at once. As far as can be learned the committee has no present intention of attempting to mobilize the oil industry itself or impose any additional controls or regulations, but is simply preparing to have on hand all information which may be needed in any sort of emergency.

Secretary Ickes announced the formation of the committee in a letter to First Asst. Sec. E. K. Burlew, who will head the committee, he said.

National-Defense Oil Taxes

THE Senate acted speedily to pass the national-defense tax bill including increases in the gasoline and lubricating-oil excise taxes. Appearing before the Senate finance committee on behalf of the oil industry Fayette B. Dow reiterated that the oil industry is not opposing these increases but called attention to three points. He criticized the provision in the bill ear-marking the petroleum and other special taxes for 5 years to amortize special treasury bonds, declaring this would mean that these taxes could not be changed for 5 years even though in the meantime Congress made a general revision of the revenue laws which might make it desirable to alter some of these taxes. He also pointed out that while gasoline and oil are more essential to national defense than most of the other items bearing excise taxes these commodities are given a larger percentage increase than any of the others, and he declared that the oil industry and highway users have already contributed heavily to national defense by paying taxes for the construction of our modern system of improved highways.

Can Embargo Oil

DEFINITE authority for the president to embargo the exportation of petroleum products is contained in a bill just passed by Congress to expedite the national-defense program. Such authority was contained in the bill as it passed the House, but the Senate amended the language to make sure that it would cover oil if desirable. The language of this section of the law reads:

"Whenever the president determines that it is necessary in the interest of national defense to prohibit or curtail the exportation of any military equipment or munitions, or component parts thereof, or machinery, tools, or material or supplies necessary for the manufacture, servicing, or operation thereof, he may by proclamation prohibit or curtail such exportation, except under such rules and regulations as he shall prescribe." It was made clear during the Senate debate that gasoline and lubricating oil would be considered supplies necessary in the operation of military equipment.

For the present the president is expected to use this power only to curb the exportation of tin, rubber, and other critical materials not produced in sufficient quantities in this country, and possibly also the exportation of machine tools and scrap metals, but the power is broad enough to permit the regulation of the shipment of aviation gasoline or other petroleum products.

Gasoline-Pump Standards

THE high standards of the measuring devices used in the retail sale of petroleum were discussed at the thirtieth annual Conference on Weights and Measures, attended by over 250 officials last week in Washington.

Emphasizing the progressiveness of the petroleum industry in continually developing new types of gasoline pumps and meters, Charles M. Fuller, weights and measures official of Los Angeles, Calif., described several methods of testing the accuracy of meters. One method, developed by the California Natural Gasoline Association, employs the specific-gravity kit and the hydrometer, a second is the weight method using a platform scale, and a third utilizes a calibrated tank to provide an accumulator chamber for vapor.

Howard S. Bean, of the National Bureau of Standards, described the advantages and drawbacks of the four methods of selling gas: by tank-gaging, weighing, liquid meters and gas meters. He disclosed the fluid-meters committee of the American Society of Mechanical Engineers is sponsoring a research program on volometers. G. Denny Moore, managing director of the Gasoline Pump Manufacturers Association, asked that the many different types of gasoline pumps be standardized, thus resulting in both economy and convenience to manufacturers and buyers.

Two Oil Bills

TWO bills of interest to the oil industry were acted upon by Congress last week. The House passed and sent to the Senate a bill which would amend the internal-revenue laws to exclude petroleum stills from the requirement of registration. Due to a federal-court decision, petroleum stills were required to be registered with the Treasury Department under the law of 1868 calling for the registration of liquor stills. The bill would correct that situation by restricting the law to the liquor industry, as was originally intended, explained Rep. Wesley E. Disney of Oklahoma, author of the measure.

The Senate public-lands committee favorably reported a bill, already passed by the House, concerned with placer mining claims for deposits of phosphate, sodium, potassium, oil, oil shale, or gas on the public domain. The bill requires the filing of notice of the existence of such claims, and calls for their forfeiture if assessment work of $100 is not performed annually upon each claim, according to Section 2324 of the Revised Statutes.

Drilling Activity in 1940 Approaches 1937 Peak

By W. V. HOWARD

WITH total completions running 18.4 per cent ahead of last year and drilling operations 17.8 per cent more numerous than on June 1, 1939, present indications are that there will be approximately 32,000 completions during 1940 or within 500 of the peak activity in 1937.

During May 1940 there were 2,101 oil wells completed as compared with 1,551 in 1939. The bulk of this increase is in the eastern area, Illinois, Kansas, California and coastal Louisiana, all of which areas are more than ordinarily active at this time.

The eastern completions include an unspecified number of input wells which are listed as oil wells. The sharp drop in average initial production of wells in this area is due to the drilling up of the Music Mountain field in the middle of 1939. The large number of drilling wells in this area indicates increasing activity.

Ohio is enjoying a minor boom as shown by the increased number of oil wells and also of dry holes, which reflect wildcatting activity. The small average initial production indicates that this activity will be temporary unless new production is discovered. Michigan's low initials reflect the fact that few discoveries have been made during the past year and completions are largely routine. Wildcatting is above average, although not at last year's rate.

In Indiana, the attempts to duplicate Illinois' record are clearly shown in the dry-hole record, although the remainder of the table shows that these attempts have not as yet met with great success. Illinois' outstanding record is, of course, due to the rapid drilling up of the Devonian area. It is significant that average initial productions in Illinois have declined from 1,310 bbl. in February to 642 bbl. at the present time. This is, however, far above average for the state and the present drilling activity shows no signs of abatement.

The discoveries in Mississippi are, of course, reflected in the statistics for that state and also in the increased activity in the other southeastern states.

Arkansas, North Louisiana and eastern Texas show the greatest decline in activity of all the major producing areas. The drop in East Texas is due to practical cessation of drilling in the East Texas field. Throughout this whole section, the low initial productions indicate the routine character of the activity.

The Oil and Gas Journal has presented for many years a detailed monthly summary of drilling activity by states, districts and counties. This summary for the month of May 1940 appears on Pages 91 and 92 of this issue. As an additional feature, The Oil and Gas Journal presents herewith an analysis of this summary of activity in order that readers may readily grasp the significance of increases and declines in activity in each producing and prospective area.

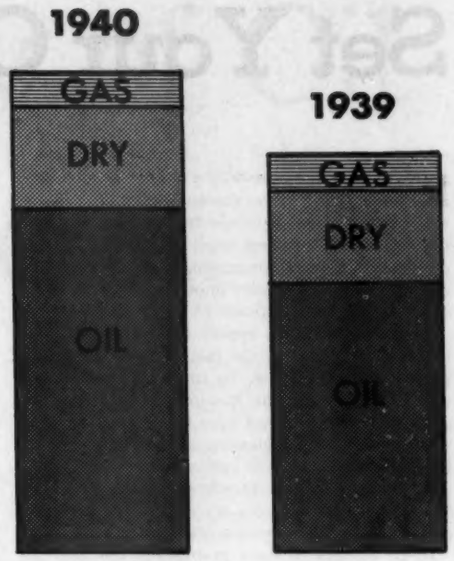


Fig. 1—Comparison between number of completions during first 5 months of 1940 and 1939

The Louisiana Gulf Coast shows increased activity, with high initials indicating the tapping of flush fields and presaging further activity. Wildcatting is continuing at a rate slightly in excess of the average over the past 4 years. The remainder of Texas and New Mexico is maintaining the high rate of activity that has prevailed during the past 4 years, with the possibility of still greater activity in the Wichita Falls district and in West Texas.

Of the Rocky Mountain states, Montana shows greater than normal activity, with better than average results. California shows an increase in completions although the number of drilling wells remains at about last year's level.

The figures for Oklahoma and Kansas are of particular interest in view of the fact that operators in these areas have one factor to watch in addition to the normal local conditions, namely Illinois. That Kansas operators expect to benefit from a decline in Illinois production is indicated by the large number of completions in the former field. Wildcatting is also on the increase, although not to so great an extent as in Oklahoma where there are fewer undrilled proven locations.

COMPARATIVE DRILLING ACTIVITY—1940 AND 1939

District—	Oil wells: May 1940	May 1939	Av. 48 mo.	To date 1940	To date 1939	Av. initial prod.: May 1940	May 1939	Av. 48 mo.	Dry holes: May 1940	May 1939	Av. 48 mo.	To date 1940	To date 1939	Gas wells: May 1940	May 1939	Av. 48 mo.	To date 1940	To date 1939	Rigs and drlg.: May 1940	May 1939
Eastern	494	172	273	1,985	944	2	49	7	23	18	30	129	99	64	59	68	296	251	645	382
Ohio	46	14	18	137	50	13	21	21	39	27	27	124	117	30	43	37	133	177	200	145
Michigan	55	69	51	304	360	174	764	447	43	54	32	194	212	6	5	6	15	15	186	158
Indiana	12	12	8	63	26	83	92	101	26	19	9	73	42	5	1	4	17	12	69	64
Illinois	343	248	150	1,196	1,085	642	285	327	58	48	28	200	225	....	1	1	14	8	541	418
Kentucky	23	26	29	71	94	30	58	63	14	8	21	70	113	8	11	11	33	44	99	125
Georgia	....	1	....	....	....	....	....	....	....	1	....	....	1	....	....	....	....	....	4	1
Florida	....	....	....	....	....	....	....	....	1	....	....	1	1	....	....	....	....	....	5	1
Alabama	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	8	....
Mississippi	12	....	1	48	....	580	....	651	18	1	2	39	3	....	....	....	....	....	41	8
Arkansas	11	17	12	53	74	330	536	568	4	4	5	23	27	....	....	....	....	....	37	54
North Louisiana	38	29	34	162	135	108	241	326	7	20	11	42	72	6	8	9	28	30	64	67
South Louisiana	72	33	33	324	156	292	294	405	19	21	16	91	92	1	....	1	5	4	154	148
Gulf Texas	89	114	100	404	459	278	290	370	20	29	23	109	100	1	7	4	15	29	128	150
East Texas Border	2	1	14	7	15	100	900	370	3	4	2	8	6	1	2	1	3	3	23	15
East and Central Texas	23	47	141	154	258	83	68	61	13	12	14	36	53	8	6	2	27	13	90	62
West Central and North Texas	157	131	123	696	531	616	453	418	98	132	90	451	425	....	8	4	18	20	433	354
South Texas	144	174	153	608	754	135	115	166	71	87	63	346	308	5	8	8	28	33	209	195
West Texas	137	162	160	799	703	877	701	839	9	16	19	54	67	1	....	1	3	* 1	370	343
Texas Panhandle	48	22	39	193	105	258	345	443	1	1	2	7	18	6	7	10	35	26	194	109
New Mexico	32	34	45	251	188	491	655	611	8	13	6	49	34	1	1	2	13	7	153	147
Oklahoma	99	99	114	398	423	199	206	371	74	42	51	279	229	7	11	10	52	45	326	355
Kansas	131	70	108	513	298	394	401	651	37	19	36	111	104	7	4	7	20	17	286	246
Missouri	....	....	....	....	....	....	....	....	....	3	1	9	3	....	....	....	2	....	17	17
Nebraska	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	15	4
South Dakota	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Wyoming	9	8	8	45	26	967	900	769	3	3	4	10	16	....	....	1	3	....	81	77
Montana	21	7	10	54	41	133	71	90	3	....	4	17	9	2	1	2	3	6	55	57
Colorado	....	1	½	1	2	....	25	361	1	2	1	4	8	....	....	....	....	1	33	35
Utah	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	7	4
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	7	4
California	103	60	83	446	323	680	1,177	709	8	19	21	35	114	(*)	(*)	(*)	(*)	(*)	320	335
Total	2,101	1,551	1,707	8,912	7,050	339	322	346	601	603	518	2,523	2,500	159	184	189	763	742	4,804	4,078

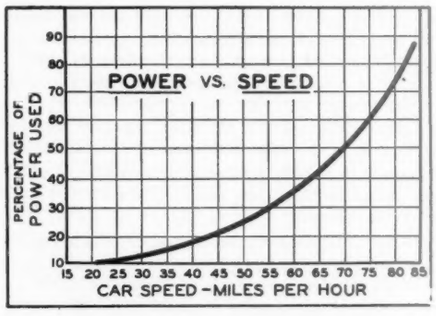
*In oil wells.

Set Your Own Gasoline Mileage

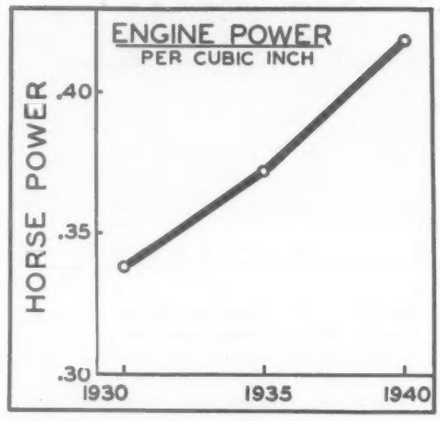
By W. T. ZIEGENHAIN

REFINERY and automotive engineers have predicted that future gasoline engines will develop twice as much power from the same quantity of fuel. At the same time, oil economists have predicted constantly mounting domestic gasoline consumption for at least another 15 years. Obviously it becomes difficult to justify readily the two statements. They appear to conflict but a solution is suggested by the fact that motorists may want to drive faster in the future. This will tend to greatly increase the gasoline consumption per mile. Increases in speed over the present average will cause gasoline consumption to mount relatively fast and this will probably have a stronger influence than the improvements in fuel quality and engine performance which will tend to decrease the gasoline consumption.

In an attempt to show graphically the relationship between changes in engine design and gasoline consumption for the past 20 years and to use this as a basis for predicting trends in the future, three curves have been constructed from recognized authoritative automotive data. Included here also is a drawing on which are shown the heat losses of the average modern motor car. It will be seen that only 25 per cent of the energy in the fuel is converted into useful work. It is evident that considerable room is left for marked and continued improvement in engine efficiency.



Modern automobiles have been supplied with greater power because drivers demand more speed. However, the power required to drive the car mounts faster than the speed of the car. Graph shows per cent of power consumed at different speeds



Power compared with engine-displacement volumes has increased from 0.33 hp. per cu. in. in 1930 to 0.43 hp. this year

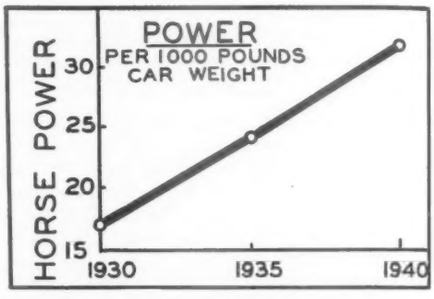
Speed as a Factor

Since car manufacturers build the types of cars which people demand, the future speed of cars and their corresponding gasoline consumption will become a function of the future wishes of drivers. This is an indeterminate factor; however, speedier cars will probably be demanded and especially if the roads permit.

A brief analysis of the "Power v. Speed" curve indicates that a modern car going 50 m.p.h. requires twice as much driving force as one traveling 30 m.p.h. Also, a car driven 80 m.p.h. requires twice as much as one driven 60 m.p.h. Thus it appears that in order to gain relatively little additional speed the power consumption of the car must be greatly increased.

Immediately, the assumption is made that if the future driver insists upon riding faster, he must have more power available. To increase this power, he must increase the quantity of gasoline consumed, change the fuel characteristics, change the engine characteristics, or arrive at an economical composite. It is probable that all of these will be considered and one needs only to review trends to suggest the car of the future.

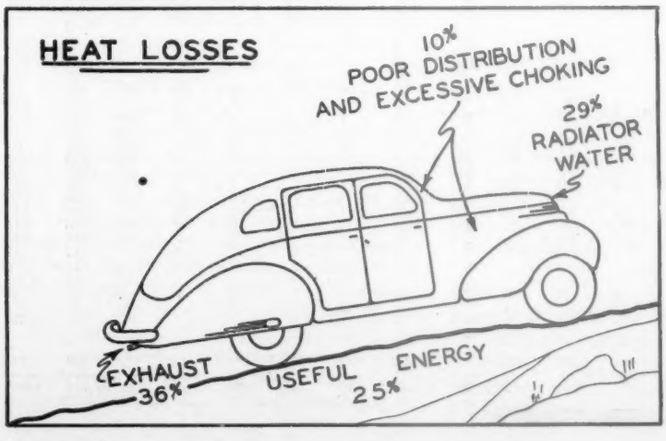
At present, car manufacturers complain they must build their engines to fit the wide variety of gasolines available all over the country and thereby sacrifice efficiency. The refiner, in turn, knows that no two cars perform alike when using the same gasoline. Just what may be eventually evolved to correlate those two factors remains to be seen. The technical solution is to synthesize a single hydrocarbon from crude oil. The practical solution will probably be to weigh the theory and work toward it but considerable time will elapse before realizing its objective.

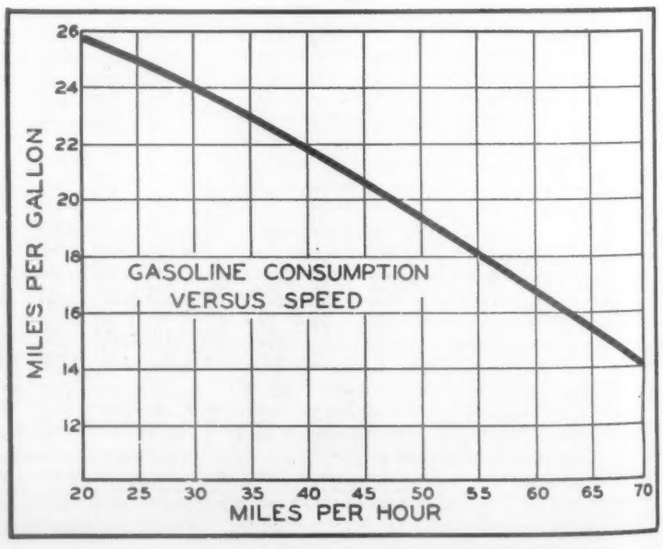


Modern motor cars of the same power output weigh only one-half as much as they did 10 years ago

In the meantime, the refining industry is narrowing the distillation range on all motor fuels and is making a careful selection of its crude-oil charging stock, with respect to octane values. It is also installing equipment which will manufacture a relatively narrow range of hydrocarbons of exceptionally high-octane value.

Below: The modern car engine is relatively efficient but it still uses only one-quarter of the energy available in the gasoline. Right: Speed is the most important factor when judging gasoline mileage. The biggest boon to the gasoline market is better roads to permit faster driving. A modern car can go 10 miles farther on a gallon when driven at 30 m.p.h. than at 70 m.p.h.





Direct Discovery of Oil Deposits Is Difficult

By W. V. HOWARD

ONE of the most general criticisms of geology and geophysics is that they do not discover oil directly. At best, they locate the places where the chances of finding oil appear most favorable From time to time new types of oil fields are discovered, which lead the geologist or geophysicist to revise his appraisal of the chance of discovering oil in the areas in which this class of field may be found.

The question of direct discovery of oil is, however, always with us and interest in this phase of exploration has recently been greatly stimulated by the development of soil analysis or geochemical prospecting. There are many other methods proposed from time to time which range from the forked stick to the detection of emanations from oil by especially designed instruments. Many of us tend to reject these methods without proper consideration.

To brand a certain method of discovery as "unscientific" or a given apparatus as a "fake" is almost as likely to indicate the ignorance of the critic as anything else. We can illustrate this by referring to a supposed cure for colds which was reported by a Roman writer 2,000 years ago. It was claimed that to cure a cold one need only kiss a mule. Such a statement presented before a meeting of a medical association would probably bring down the house, yet there would not be a single doctor present who could produce the slightest shred of evidence that there is not something particularly potent about a mule's kiss that would knock any germ—cold or other—for a succession of loops.

Psychic Prospecting

We have numerous examples on record of men who throw fits over oil pools. These men are perfectly sincere in the great majority of cases. They really believe that buried oil does something to them which brings on epilepsy or some other disturbance. When, however, they throw a fit on a granite outcrop after having ridden all day in a Model T Ford with gasoline under the seat, we are justified in believing that they are not sufficiently familiar with the causes of fits to warrant our drilling a well on their recommendation. We have definite evidence that they are working on an erroneous theory.

There is no doubt but that the forked stick or hazel rod moves in the hands of certain men. There is also no doubt but that the movement is generally not due to any conscious effort on the part of the operators themselves. Men with scientific training have found it to be well worth their while to examine the claims of water finders and oil finders and there is almost complete agreement among competent observers that whatever moves the forked twig downwards, it is not fluid occurring in the pores of rocks buried below the surface.

To accept or condemn any oil-finding device is not the function of the geologist in the first instance. The physicist or chemist must first examine the theory and see whether or not it is valid. Often, he can brand it as impossible without much difficulty. At other times he can say that it might work under certain conditions. The geologist can then tell him whether or not those conditions can exist or do exist. Then the geologist and physicist or chemist working in collaboration can ascertain whether or not the process will work under existing conditions.

Let us take a very simple example. The prehistoric physicist knew thousands of years ago that a fluid could be pushed through a tube if the pressure at the input end was greater than at the outlet. Based upon this very simple experiment in hydraulics, the physicist can now tell us whether or not oil can move through the rocks and collect in an oil reservoir. All he wants to know is the state of the fluid mixture in the rocks, the nature of the openings in the rocks and other details of a purely geological nature. So, in discussing direct methods of finding oil, we can often call upon physics to tell us whether they will work at all or not and thus eliminate the necessity of studying them in detail.

Rays and Other Emanations

The first thing to consider, of course, is whether or not the physicist knows enough to be able to condemn a method. One argument which every geologist has heard who has disputed the claims of some new miraculous oil finder is that no one would have dreamed of the possibilities of radio 50 years ago, and now look at it. Or it may be television or radioactivity. The fact is that many people did dream of these things. Radio was a direct result of the development of the electromagnetic theory of light which appeared in 1873, together with the results of Hertz's researches beginning in 1887. After this, all that was needed was the invention of a method of discharging energy into space and an instrument for detecting the waves.

Radioactivity was a chance discovery made by keeping photographic plates and uranium-bearing minerals too close together, but it was almost immediately linked in part to the X-ray which was produced by causing cathode rays to impinge on a solid body. Cathode rays, which we all observe every day in neon signs, were discovered many years before the X-ray and are streams of electrons, like β-rays. The essential difference between radioactive emanations and rays of other types is that whereas most rays are produced artificially, radioactive emanations were first observed coming from naturally occurring substances.

This brings up another question, namely, that if radioactive emanations come from naturally occurring substances, why can not other rays do the same? The answer obviously is that they can, and possibly do. If, however, such emanations exist, they must be very much weaker than radioactive emanations or they would have been detected long ago.

Emanations from substances are of two main types, particles and energy. Radioactive substances give off α and β-particles, which are helium atoms and electrons. These can be weighed, their velocities have been accurately measured and their penetrating power is known. γ-Rays are analogous to X-rays and their velocities have also been measured and their penetrating power is also known. It is estimated that the radiations measured in radioactive logging do not penetrate more than 7 in. of rock. α-Particles lose their ionizing power and, therefore, their identity on passing through about 2½ in. of air or a couple of sheets of note paper.

Radioactive emanations are evidences of insta-

NEXT WEEK

Featuring Kansas Developments

The June 27th issue of The Oil and Gas Journal will present a complete survey of operations in Kansas. The information will include staff and contributed articles which will bring information on Kansas operations up-to-date and project the future trends. The subjects covered include:

- Exploration
- Engineering practices
- Complete statistical data covering all phases of development
- Refining and natural-gasoline manufacture
- Pipe-line transportation

An outstanding feature for all regular subscribers will be the 33 by 48-in. insert map in color showing the location of all oil and natural-gas fields, refineries, natural-gasoline plants and pipe lines—the most complete map of Kansas ever published.

bility under given conditions. The atom cannot exist for long in a given form because of internal stresses. On emanation of a particle, greater stability may result. If it does not, more particles are shot out until stability is reached. In the case of the three radioactive series, this end product is lead. A very unstable isotope of potassium is also radioactive and rubidium is faintly radioactive. There is some disputed evidence that lead and mercury also undergo spontaneous disintegration to form thallium and gold, but this is so weak that it has never been observed directly. Thus, among the unstable elements, the strongest radiation has a penetrating power of 7 in. of rock and carbon is one of the most stable elements known. Therefore, the possibility of any radiation at all from deep-seated hydrocarbons is almost zero and the possibility that such emanations

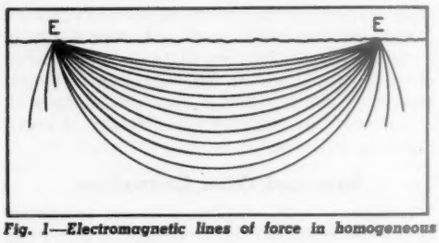


Fig. 1—Electromagnetic lines of force in homogeneous body

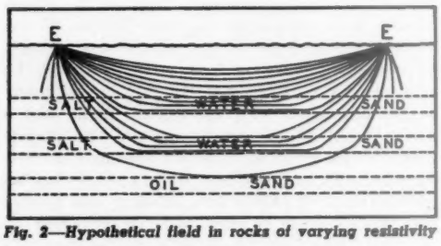


Fig. 2—Hypothetical field in rocks of varying resistivity

could be detected at the eartn's surface in the form of rays by any apparatus now known or conceived of is absolutely zero.

Another difficulty in detecting rays emanating from oil, if such exist, is the fact that once a ray leaves its parent mass it acts like rays coming from entirely different substances. Thus, all α-particles are the same, regardless of the parent substance. They are also very similar to canal rays and we measure their effect, not by using the slowly disintegrating radioactive material but by making artificial streams of particles which produce the same effect in a very much shorter time. Thus, if we do manage to pick up some previously undiscovered rays, they might just as well come from dust gathered on the detector as from oil at depth.

This, of course, disposes of the numerous devices by means of which oil or gas is "discovered" in certain sands by its action on a sample of oil or gas taken from the same sand in another locality. The principle of "like attracts like" is not physical so much as psychological.

There are many instances where it is claimed that oil can be detected by certain means by some individuals who have definite psychic powers. That such persons exist is not entirely impossible, but it is extremely unlikely that they can use these powers to determine the presence or absence of a material body in a definite physicochemical environment. Their discoveries, like their powers, belong in a nonmaterial sphere and are not translatable into terms of barrels of oil in a lease tank.

Electrical Methods

Electrical properties of substances are generally convertible into terms of resistivity and conductivity, or the passage of a current through a conductor. Much work has been done on the problem of discovering oil by means of resistance. One of the phenomena observed in electrical logging is that the resistivity of a porous sand tends to increase if the sand is filled with oil. But here the electrode is in contact with the oil sand and the resistivity of that sand is frequently found to be greatly reduced by the presence of connate water carrying salt in solution.

If the electric log does not always show the presence of oil because of this single complicating factor, then the discovery of oil at depth through the use of electrical prospecting methods becomes correspondingly more difficult. From a strictly physical point of view, however, successful electrical prospecting may be possible. It remains for us to determine whether or not the direct discovery of oil in place by electrical methods is possible. R. Ambronn, "Elements of Geophysics," Pages 179, 180 and 191, states that it is impossible to distinguish between oil and other nonconductors.

The presence of connate water in the oil sand has already been seen to have a disturbing effect. This will be the same whether the electrodes are placed near the oil body or far away. However, if there is a water sand between the oil sand and the surface this will affect the surface measurements more than the electric log. It is impossible to direct a single wave or beam of electricity from an electrode along a certain path to another electrode. There is some leakage even with the best conductors surrounded by the best insulators. Currents passing into the ground from an electrode will follow every conceivable course towards the negative electrode (Figs. 1 and 2). The amount of current received by the negative electrode is the sum of all of the amounts transmitted along all of the paths. A great reduction in the amount of current which traverses an oil sand 30 ft. thick at a depth of 3,000 ft. will not be noticed in the mass of other superimposed observations.

If the effect of these is overcome by stepping the electrodes out a few feet at a time until the currents going lowest just graze the top of the supposed oil pool, then the slowing up of this beam will hardly be noticeable unless every overlying formation is absolutely homogeneous throughout the length traversed by the currents. At this time it would appear that direct discovery of oil by electrical methods is possible but that the computations and calculations involved would make almost any result subject to so many interpretations that it would be unwise to place any great reliance on the method.

Effect on Force of Gravity

As an example of the complications of measuring any physical property of oil at a distance, we can consider the simplest and best-known property—gravity. Even to do this, we must make many assumptions. Let us assume the existence of a lens containing oil at a depth of 2,000 ft. and a nearby lens containing salt water at the same depth. If the oil has a specific gravity of 0.7 (70° A.P.I.) the water a density of 1.1, the specific gravity of the reservoir rock is 2.5, and the porosity is 25 per cent, then the specific gravity of the oil reservoir, including fluid, is 2.05 and of the water reservoir 2.15.

If, further, the two bodies each have an area of 1 sq. mile and a thickness of 20 ft., and every other condition between the center of the earth, through the reservoirs, to the gravimeter is exactly similar in both areas, then the difference in gravitational force between the two bodies would be about 0.000000000000006 lb. times the gravimeter constant.

A brick buried a foot below the surface of the ground would probably make as big a difference.

Thus measurement of the effects of bodies of oil at a distance, requires refinements too great for known instruments, or calculations too complicated for known mathematics, and the possibility of direct discovery of oil in place is extremely remote unless we can either get down to the oil or determine some way in which the oil comes up to us. The best known method of getting to the oil is by means of the drill and geochemical prospecting offers the best known possibilities of detecting oil that has come to the surface.

The next article in this series will present some of the physical, chemical and geological factors connected with geochemical prospecting.

●

Shell Tanker Launched

SOREL, Que.—The largest all-welded oil tanker ever built in Canada, the "Lakeshell," built for Shell Oil Co. of Canada, was launched here recently. The Lakeshell, designed for service on the Great Lakes, is 259 ft. long with 43 ft. 10-in. beam and 22-ft. depth, and is entirely diesel-engine equipped.

DEATHS

JACK SUMMERS, 66, of Muskogee, pioneer eastern Oklahoma oil operator, died June 14.

LELAND B. DOW, brother of Fayette B. Dow, general counsel for the National Petroleum Association, died suddenly June 17 at Mumford, N. Y.

HOWARD W. PRICE, 52, vice president and general manager of J. M. Huber Corp., carbon-black manufacturing and oil-producing concern, died at Borger, Tex., last week.

CHARLES M. DODGE, 81, former secretary-treasurer of the Bradford Oil Exchange and a former member of the New York Stock Exchange, died June 11 in an Erie hospital.

GEORGE E. SMITH, 66, veteran South Texas independent operator, died at his home in San Antonio June 13. Mr. Smith is credited with having discovered the Goose Creek field in Harris County and several other fields in South Texas.

VEZIO CAMBI, vice president and general manager of Societa Petrolifera Italiana, with offices and refinery at Fornovo Taro (Parma) Italy, died June 8 in New York City after a short illness. He came to the United States in May and was planning to make a trip to the Mid-Continent and Gulf Coast fields when he suffered a heart attack.

FRANK GRAY McINTOSH, former assistant superintendent of the Eclipse Works of the Atlantic Refining Co., died recently at his Los Angeles home. He was a son of Duncan McIntosh, former superintendent of the Eclipse, who was a personal friend of John D. Rockefeller, Sr.

RALPH C. RILEY, 63, Tulsa oil producer for 21 years, died June 13 at his Santa Monica, Calif., home after a 3-year illness. He retired and moved to California in September, 1937. He was a native of Olean, N. Y., and entered the oil business at Sisterville. He later became associated with Pure Oil Co., and when the fields at Casey and at Robinson, Ill., were developed he followed. He moved to Tulsa in 1916, and was associated with J. A. Hull in the Oklahoma Central Oil Co. In 1921 he aided in forming the J. A. Hull Co. He was vice president and general manager until it was sold to the Sinclair Prairie Oil Co. in 1936. He then joined E. E. Adams in a production association.

International

France . .

Fifty-Barrel Well In South of France

DISCOVERY of a producing well in the south of France around 6,000 ft. has been reported in La Revue Petrolifere and the Petroleum Times of London. The discovery well is credited with flowing about 50 bbl. of 22°-gravity oil in 3 hours. It is located at Pinat on the Saint-Marcet anticline, not far south of Toulouse.

The well is the first commercial success reported in a government-sponsored exploration program which was intensified 2 or 3 years ago in an effort to reduce the dependence of France on imported petroleum.

A sketchy analysis of the crude produced from the new well gives the gasoline content as 22 per cent, a desirable lubricating oil fraction, and 4 per cent paraffin.

Reports are that the well first encountered high-pressure gas the middle of last year and that it was necessary to obtain additional equipment from the United States before deepening.

England . .

Three More Prospecting Licenses Determined

THE Secretary for Petroleum announces the determination by the licensee of three prospecting licenses granted to the D'Arcy Exploration Co., Ltd. The areas consisted of (1) about 35 sq. miles in the county of Stafford, including part of the town of Stafford; (2) about 176 sq. miles in the counties of Shropshire and Stafford, including the town of Market Drayton, and (3) about 58 sq. miles in the counties of Derby and Chester, including the town of New Mills. In respect of Area 1 which originally consisted of about 171 sq. miles, notice of surrender of a portion of the area consisting of about 136 sq. miles in the counties of Shropshire and Stafford was given in 1938.

Francis William Rickett, the British agent who carried on negotiations for the exploration concession on Ethiopia, instituted suit in London earlier this month seeking a judgment for 80,000 pounds from Parent Petroleum Interests, Ltd. Mr. Rickett claims the funds are due for negotiations he carried out at the instigation of T. C. J. Burgess and Lord Inverforth.

Russia . .

Prospecting Program Lags Behind Schedule

THE Moscow newspaper "Industria" pointed out editorially last week that the oil prospecting program for 1940 is lagging behind schedule. Despite the achievements of a number of prospecting groups, progress on the whole is slow, the publication stated.

None of the geological trusts fulfilled the plan for the first quarter. Especially poor was the work in the lower Volga of the Tartaria oil trusts. Breakdowns and machinery standing idle handicapped progress in many regions last year, the paper said.

Portugal . .

Company Will Carry On Exploratory Work

ANGLO-PORTUGUESE OIL CO. has been formed in Portugal as a subsidiary of S. A. Concessionaira da Refinacao de Petroleos em Portugal to carry on drilling exploratory work. Creation of the company was announced in the annual report of SACOR, which built a new refinery near Lisbon that has been in operation since January. The Portuguese companies are largely backed by Bedeventza (British) Oil Co., Ltd.

Mexico . .

THE government oil administration—Petroleos Mexicanos—is engaged in a drastic "housecleaning" of the industry, to increase efficiency and effect economies. Both Mexican and foreign fields are being searched for markets. Meanwhile Mexico is endeavoring to sell Japan another $3,000,000 worth of oil.

CRUDE CONVERSION FACTORS

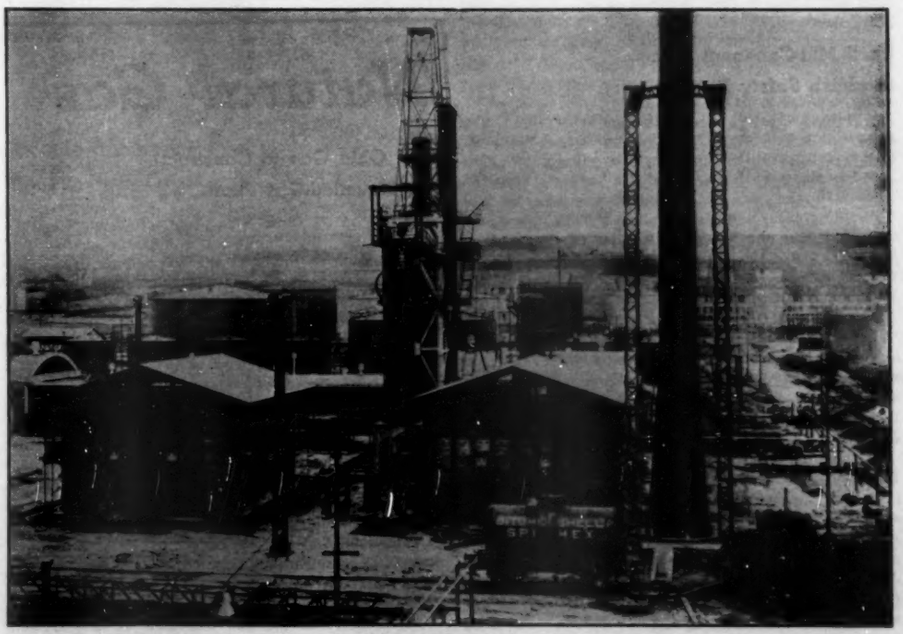
(Barrels Per Metric Ton)

(Compiled by R. B. Miller, U. S. Foreign Minerals Division)

Country—	Production recorded in terms of	1939
Albania	Weight	6.672
Argentina	Volume	7.177
Austria	Weight	6.708
Bahrein Island	Volume	7.328
Bolivia	Volume	7.716
British Borneo:		
Brunei	Weight	7.489
Sarawak	Weight	7.817
Canada	Volume	7.858
Colombia	Volume	6.966
Czechoslovakia	Weight	6.787
Ecuador	Volume	7.585
Egypt	Weight	7.002
France	Weight	7.129
Germany	Weight	6.993
Hungary	Weight	7.433
India	Volume	7.240
Iran	Weight	7.366
Iraq	Weight	7.481
Italy	Weight	7.652
Japan	Volume	7.030
Mexico	Volume	6.810
Netherland East Indies	Weight	7.811
Peru	Volume	7.555
Poland	Weight	7.419
Rumania	Weight	7.336
Trinidad	Volume	7.110
U.S.S.R.:	Weight	7.290
Sakhalin	Weight	6.750
United States	Volume	7.401
Venezuela	Weight	6.703

In the world production tables prepared by the Bureau of Mines, the factor for converting tons to barrels is based on the average specific gravity reported for each oil field wherever possible. The figure is worked out in accordance with the petroleum oil tables contained in Circular No. 154, published by the United States Bureau of Standards, Washington, 1924. The factor, therefore, is a weighted average and varies from year to year.

IN THE PATH OF THE GERMAN ADVANCE



Furnaces and fractionating towers at the 14,000-bbl. refinery of Societe Anonyme des Petroles Jupiter (Shell) at Petit Couronne, on the Seine River, 10 miles from Rouen, France

Natural Gasoline

Natural-Gasoline Production And Stocks Up in April

The production of natural gasoline continued to increase in April, according to a report prepared by the Bureau of Mines. The daily average in April was 6,180,000 gal. compared with 6,082,000 gal. in March, and 5,925,000 gal. in April 1939. The chief gains in April occurred in Texas gulf, East Texas, and Louisiana districts.

Stocks continued to increase and the total on hand at the end of the month was 256,704,000 gal., 30,198,000 gal. more than on the first of the month and 26,376,000 gal. more than the total on hand April 30, 1939.

	Production—thousands of gallons			
	Apr. 1940	Mar. 1940	Jan.-Apr. 1940	Jan.-Apr. 1939
Appalachian	6,756	7,874	31,802	27,288
Ill., Mich., Ky.	2,252	2,139	8,649	4,824
Oklahoma	33,435	33,883	130,406	148,359
Oklahoma City	6,799	6,755	27,894	36,139
Osage County	4,182	4,356	16,345	16,617
Seminole	9,975	10,056	37,136	40,123
Rest of state	12,479	12,716	49,031	55,480
Kansas	5,226	5,401	22,283	20,235
Texas	72,825	72,541	273,992	219,532
Gulf	16,113	15,899	55,262	21,536
East Texas	14,785	14,742	55,866	59,578
Panhandle	21,392	22,208	87,299	78,113
North Texas	2,699	2,599	9,870	8,800
West Central	5,194	5,540	21,318	22,504
Rest of state	12,643	11,553	44,377	29,001
Louisiana	8,071	7,932	34,013	27,473
Arkansas	2,864	2,925	9,038	8,666
Rocky Mountain	6,953	7,099	27,310	28,380
California	47,005	48,753	191,333	207,193
Huntington B.	2,695	2,769	10,667	11,869
Kettleman H.	10,122	10,523	41,164	58,884
Long Beach	7,347	7,556	29,183	28,617
Santa Fe Spgs.	4,595	4,797	18,635	19,577
Ventura Ave.	4,550	5,232	20,369	19,931
Rest of state	17,696	17,876	71,315	68,315
Total	185,388	188,538	728,826	691,950
Daily average	6,180	6,082	6,023	5,766
Total (thousands of barrels)	4,414	4,489	17,353	16,475
Daily average	147	145	143	137

Shipments to jobbers and retailers decreased from 15,582,000 gal. in March to 15,078,000 gal. in April, and exports reported to the Bureau of Mines from 10,626,000 gal. to 3,738,000 gal.

The average vapor pressure for shipments to jobbers and retailers increased, but the average vapor pressure for all other shipments decreased. The weighted average for the month was 19.3 lb., compared with 20.3 in March, and 19.7 in April 1939.

Shell Mid-Continent Plants Establish Safety Record

Employes of Shell Oil Co., Inc., Mid-Continent area gas-gasoline division have added another achievement in accident prevention to their outstanding record. The gasoline plants at Braman and Tonkawa recently finished a 10-year period of continuous operation without a disabling injury to any employes. Total man-hours worked during this time was 620,700. Of the 20 regular employes of these plants, 8 participated in the entire 10-year record. They are: William R. Butler, Roy E. Hamman, Oliver W. Hollingsworth, H. T. Renfrow, Albert R. Stout, George D. Taylor, Milton K. West, and Tarance T. Whitley.

During most of the 10-year period S. W. Craig, now superintendent of Shell's plant at Wasson, Tex., was in charge of these plants. For approximately 1 year past, R. H. Medler has been superintendent at Tonkawa and Braman.

Because natural-gasoline plants handle highly inflammable materials under elevated temperatures and pressures, the industry is frequently considered a hazardous one, yet the employes of these plants by alertness, care, and good judgment, have built up a record equal to 330 man-hours without loss of time by accident. This long period of accident-free work has benefited both the company and the men. Besides the advantages of efficient, uninterrupted operation and good morale, the company has, as compared with normal petroleum-industry experience, saved some $2,800 in direct accident expense. The men have realized the benefits of happiness, comfort, and continuous income with an actual tangible saving of about $1,700 in wages which might have been lost had normal accident frequency prevailed.

This is the second 10-year no-accident record completed by Shell plants in the Mid-Continent area, the first having been completed in April by the two Bryan plants near Skellytown, Tex. Besides these records the entire group of Shell Mid-Continent plants—10 in number—received national recognition for safety achievement in 1939, winning first-place rating in the National Safety Council contest. This honor was won by reason of all 10 plants working for 1 full year without disabling injury.

Plans Recycling Plant In Joaquin Sector

FORT WORTH, Tex.—Plans are reported under way for a $250,000 gas-recycling plant of 50,000-cu. ft. capacity in the Joaquin sector of Shelby County, where several large gas wells have been completed from the Rodessa sector of the Glen Rose. The area is 12 miles northeast of Center.

Plans for the plant have been announced by Paul H. Hewitt of Longview, who said negotiations under way for the purchase of the Portex Oil Co. plant had collapsed. He also announced that in addition to the plant, it was expected that another $250,000 would be spent in developing the gas reserve.

Warren Petroleum to Build Plant In Salem-Lake Centralia Field

Warren Petroleum Corp., Tulsa, active in manufacture of natural gasoline in Oklahoma, Kansas, Texas, Louisiana, and New Mexico, is to build a plant in the Salem-Lake Centralia field of Illinois. The Texas Co. and the Sunflower Gasoline Co. already have plants in the area. Warren will process the gas from wells of Magnolia Petroleum Co., Shell Oil Co., Inc., Ohio Oil Co., John R. Mitchell, W. C. McBride and others.

The company will buy all gas with more than three-fourths of a gallon gasoline per 1,000 cu. ft. The new plant will produce propane and butane in addition to natural gasoline.

Natural Gas

East Ohio Gas to Construct Big Liquefied-Gas Plant

CLEVELAND, Ohio.—To protect consumers against shortage in winter and insure industry against fuel shutdowns in the midst of the war-defense drive, East Ohio Gas Co. announced it would immediately construct the world's first liquid-gas plant here at a cost of $1,000,000. By means of this plant and use of spherical tanks, the company will be able to store 150,000,000 cu. ft. of gas in Cleveland, which will be instantly available whenever demand requires.

It has been impracticable to store gas for emergencies, due to the immense space gas requires in its normal state and the danger involved. An immense tank, the size of those used for oil storage, would hold only about 5,000,000 cu. ft. of gas in its ordinary form. To store 150,000,000 cu. ft., about 30 huge tanks and acres of ground would be required.

Now, under a plan developed by C. E. Gallagher, East Ohio president, and engineers of the company, gas first will be compressed under 600 lb. pressure and then liquefied by cooling it to a temperature of —250°.

In liquid form, the gas will take up one six-hundredth the space in its normal state, allowing the company to store all that it needs in three tanks of 57-ft. diameter. These tanks would hold 250,000 cu. ft. of liquid gas, which is equal to 150,000,000 cu. ft. of natural gas.

The liquid gas will have much the same consistency as water and will be under no pressure when in storage. Dangers of fire and explosions automatically are eliminated.

Average daily demand of domestic consumers over the entire East Ohio system amounts to about 85,000,000 cu. ft., and, therefore, the new reservoir would be able to supply the needs of almost 2 ordinary days.

Construction is to start at once on the new plant and storage tanks. The tanks will be manufactured by Republic Steel Corp. from special nickel steel and will be in the shape of spheres on a flat foundation. The tanks will be heavily insulated with cork.

Gas Machinery Co. will erect the plant, which will be 145 ft. long and 26 ft. wide, and will house compressors, pumps, and other apparatus, including steam boilers developing 1,000 hp.

The gas will be pumped into the plant through the company's regular lines and after undergoing compression it will be liquefied through the cooling process, which requires boiling by ethylene and ammonia. It will be possible to liquefy and store the gas at the rate of 4,000,000 cu. ft. of gas per 24 hours, but the reverse process (restoring the liquid to its natural state) can be done at the rate of 3,000,000 cu. ft. per hour, or 72,000,000 cu. ft. a day.

Regasification is accomplished by a process of heating, involving chiefly the use of steam around the pipes inclosing the liquid.

Carbon-Black Sales Reached Record Levels in 1939

The carbon-black industry reached new peaks of production and consumption in 1939, due to the demands of the warring nations and to the recovery in rubber production, according to the Bureau of Mines.

Production was 525,166,000 lb., 10 per cent more than in 1938; total sales were 560,533,000 lb., an increase of 36 per cent over 1938. Exports of carbon black passed the 200-million-pound mark for the first time; domestic sales increased 47 per cent over those in 1938 and were 14 per cent above the previous peak recorded in 1936. The position of stocks improved considerably, but prices remained distressingly low. Stocks on hand December 31, 1939, were 130,792,000 lb. compared with 166,159,000 lb. on January 1. The domestic price rallied slightly to 2.45 cents per pound compared with 2.41 cents in 1938. Export quotations continued downward, being 4.36 cents per pound compared with 4.51 cents in 1938.

Production in the Texas Panhandle was 410,130,000 lb., 91 per cent of the state total, compared with 92 per cent in 1938. The output of the whole state reached a new peak, 453,174,000 lb., 9 per cent above that of 1938. Louisiana staged a come-back, rising to 51,734,000 lb. compared with 39,534,000 lb. in 1938. Kansas and Oklahoma continued at about 20 million pounds, while Wyoming, a producer since the first statistics (1919), dropped out of the list of producers.

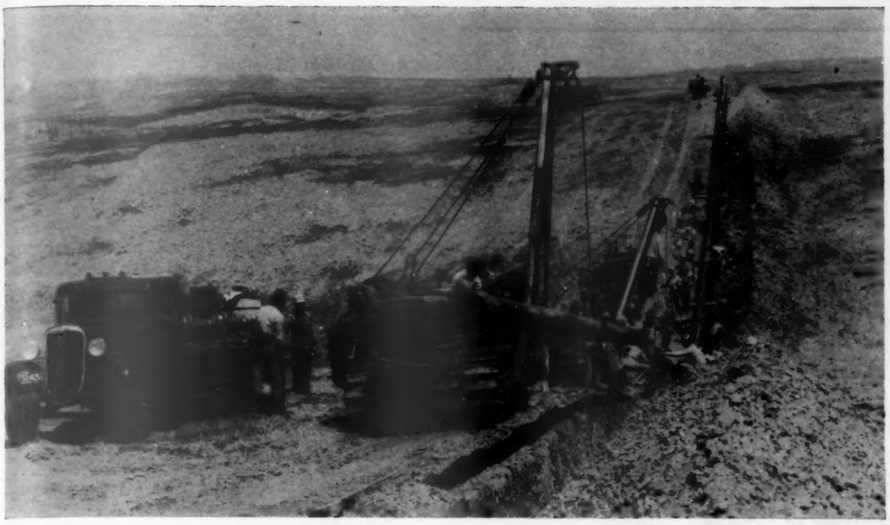
Two new plants were added to the operating list; 8 were dismantled or shut down, making a total of 49 operated during the year compared with 55 in 1938.

There were 347,270 million cubic feet of gas burned in the manufacture of carbon black in 1939, compared with 324,950 million in 1938. The average yield per thousand cubic feet rose from 1.47 lb. in 1938 to 1.51 lb. in 1939. This increase was probably due to a gain in relative importance of production by "other methods" which have much higher yields than the channel process. The average value of natural gas used was 0.94 cent per thousand cubic feet in 1939 compared with 0.89 cent in 1938.

Domestic sales of carbon black were 356,705,000 lb., divided as follows: 316,621,000 lb. (89 per cent) to rubber companies; 21,929,000 lb. (6 per cent), to ink companies; 6,382,000 lb. (2 per cent), to paint companies; and 11,773,000 lb. (3 per cent), to miscellaneous users. These data indicate that all four classes of consumption maintained their relative positions in 1939.

Exports were 203,828,000 lb., according to data supplied by the Bureau of Foreign and Domestic Commerce. This was an increase of 35,860,000 lb. (21 per cent) over 1938. A decline of 3,986,000 lb. in shipments to Germany was far outweighed by exports to the United Kingdom which increased about 50 per cent to 66,215,000 lb.

Pipe-Line Activity



Stovepiping operation in the construction of Stanolind Pipe Line Co.'s crude-oil line from Bemis to Washington, Kans., which is now being laid

Change in Route of Line Of Montana-Dakota Co.

GLASGOW.—Otto H. Bundy, manager of the Bowdoin division of Montana-Dakota Utilities Co., says a "complete change" has been made in plans for a 100-mile natural-gas line the company will build this summer. The original plan was to build the line from the Fort Peck terminus directly southeast through Circle to Glendive, connecting with the company's system in service of North and South Dakota. The revised program calls for the line to go east from near Glasgow through Nashua and Frazer to Wolf Point, and then turn south. A feeder line will be constructed from Wolf Point east to Poplar.

Sohio Corp. to Extend Southern Illinois Line

Sohio Corp. (Standard Oil of Ohio) is buying right-of-way for a crude-oil line from southern Illinois to its Ohio River terminal at Mount Vernon, Ind. The line will extend from the Barnhill, Felix, and Walker pools in Wayne County, across Edwards County to Cowley in Wabash County.

Hearing on W. Va. Line To Western New York

HARRISBURG, Pa.—A proposal to transport natural gas across three states to feed industrial centers of western New York will come before the Public Utility Commission for hearing this week. Applications were filed before the commission by three Pennsylvania operating companies of the Columbia Gas & Electric system, partly because of failure of the Oriskany sand in Tioga County to provide an adequate fuel supply.

The Manufacturers' Light & Heat Co. and Manufacturers' Gas Co., of Pittsburgh, and Pennsylvania Fuel Supply Co., of Emlenton, would hook up a new transmission line through western Pennsylvania to carry natural gas from fields of the United Fuel Supply Co. in West Virginia to the Home Natural Gas Co. in New York. All are affiliated in the Columbia chain.

The Oriskany sand in the northern tier boomed in the early 1930's, promising a new source of cheap fuel for industrial cities in New York State. But within the last year, the sand has "petered out," commission engineers say, and one company after another has looked farther south to the active fields of West Virginia, Ohio and southwestern Pennsylvania for their future supply.

Counties served by the applicant Pennsylvania operating companies are:

Manufacturers' Light & Heat Co.—Allegheny, Butler, Beaver, Lawrence, Washington, Greene and Mercer.

Manufacturers' Gas Co.—Jefferson, Elk, Warren and McKean.

Pennsylvania Fuel Supply Co.—Venango, Clarion, Armstrong and Butler.

Atlantic Refining to Lay Lines at Philadelphia

Atlantic Refining Co. of Philadelphia, Pa., will begin construction July 15 on 4 miles of two parallel 16-in. oil lines from the Philadelphia station to the Delaware River loading terminal. The line will be built by the stovepipe method, and electrically welded, covered with Somastic coating; both lines will be laid in one ditch and special equipment will be used to make the trench. Superior Construction Co. has the contract.

Multiple Submarine Line to Supply New Orleans

SHREVEPORT, La.—Officials of the United Gas Pipe Line Co. announced completion of a multiple submarine pipe line across the Mississippi River to augment the supply of natural gas to the New Orleans area.

The line connects the Lirette, Lake Long and other fields in South Louisiana with its Baton Rouge-New Orleans line. The line crosses the river near St. Rose, 22 miles west of New Orleans, where the river is about 100 ft. deep and 3,000 ft. wide.

The multiple line was laid as an assurance of uninterrupted service, the company announced.

Western Natural Gas Co. Proposes 770-Mile Line

Western Natural Gas Co., headed by Paul Kayser of New York, has applied to the Federal Power Commission for permit to construct a 770-mile natural-gas pipe line from the Hugoton district of southwestern Kansas to Milwaukee, Wis.

It is proposed that the company sell gas to distribution companies in Milwaukee, Madison, Beloit, Janesville, Racine, Kenosha, and Port Washington, Wis.; Dubuque, Iowa, and possibly other cities along route of the line.

It is estimated the line will cost $30,000,000, all of which will be raised by sale of common and preferred stock in the operating company, and from mortgages and bonds against the line.

This is the second proposed major line from the Hugoton district, the other being backed by Hagy, Harrington & Marsh of Amarillo, Tex., for a line from Guymon, Okla., to the Mesabi iron range of Minnesota. Several hearings have been held before the Power Commission on this proposal.

Tuscarora Completes Laying Of Pennsylvania Pipe Line

Tuscarora Oil Co., Ltd., last week completed the laying of 27 miles of 8-in. oil line from Gardenville to Barto, Pa. The line, which is now filled and in operation, was built by Superior Construction Co. The stove-pipe method was used for laying the line with H. C. Price, Inc., doing the welding.

Tuscarora also completed the taking up of 17 miles of 6-in. and 7 miles of 12-in. line in Berks, Montgomery, and Bucks counties, Pennsylvania. The 6-in. pipe removed from the ground was reconditioned.

Malahide-London Pipe Line

LONDON, Ont.—Announcement has been made by W. L. Duffield, vice president of City Gas Co., that Union Gas Co. of Canada will this summer lay 23 miles of 10-in. transmission line to deliver gas from the new Malahide field in Elgin County to London. The project will include a purification plant to be constructed in the field, where some 36 producing wells have been completed.

Refinery News

Colorado Refineries Are Supplying More Gasoline

The annual report of the Motor Tax Division of the Colorado State government for 1939, just released, reveals two interesting developments. Construction of new refineries and enlargement of older plants during the past 2 years caused a considerable increase in the quantity of gasoline the state plants are supplying to consumers in Colorado. In 1937 Colorado supplied 14.9 per cent of total consumption. This jumped to 23.3 per cent in 1938 and to 30.5 per cent in 1939. The 1939 increase took place in the face of an increase of 4.6 per cent in total consumption. Total consumption in 1939 was 234,316,995 gal., of which 71,426,995 gal. was supplied by Colorado refineries.

The other noteworthy development was the increase in imports moved by tank trucks. Imports in 1939 were 162,890,000 gal., of which 74,626,375 gal. were transported by tank truck. This was 45.8 per cent of total imports as against 30.9 per cent in 1938 and 29.8 per cent in 1937. In 9 years imports shipped in by truck increased from 1.1 per cent to 45.8 per cent.

New Refining Plant In Northern Alberta

REGINA, Sask.—The Anglo-Albertan Oil Refinery, of which Charles Gower is president and general manager, is planning to erect a tar-sand extraction plant and refinery in the Waterways area of northern Alberta. The initial plant, based upon a pilot plant set up at Regina, will have a capacity of 600 bbl. a day and will cost approximately $100,000.

Octane-Rating Experiments

CALGARY, Alta.—Leslie and Stewart Munro, operating the Monarch refinery 3 miles east of Calgary, are experimenting with chemical combinations designed to raise the octane rating of gasoline. They state that the octane rating of straightrun gasoline has already been raised 5 points, and gasoline recovery from Turner Valley crude increased as a result of the experiments.

PROGRAMS AND MEETINGS

W.P.R.A. Fall Regional Technical Meetings

Dates for the fall regional technical meetings of the Western Petroleum Refiners Association follow: October 4, 1940, Wichita, Kans.; October 25, 1940, Shreveport, La.

L. D. Mann, chairman of the association's manufacturing committee, said the subjects selected would be timely and in keeping with current trends of manufacturing. Titles and speakers will be announced later.

Pacific Coast Liquefied Gas Association

With truck and tractor operators turning more and more to the use of butane-propane mixtures for motor fuel, a number of the displays at the first annual Pacific Coast Liquefied Petroleum Gas Exposition, to be held at the Municipal Auditorium, Santa Barbara, June 27 and 28, will feature carburetors, pressure regulators, fuel tanks, and other equipment used in making engine conversions for this fuel.

Since California leads in the application and utilization of butane-propane mixtures in internal-combustion engines, the exposition is attracting nationwide interest.

The exposition is being arranged by the Paeific Coast section of the Liquefied Petroleum Gas Association.

Central States Petroleum Union Aids Defense

The Central States Petroleum Union, Wood River, Ill., representing independent labor organizations in 11 states of the West and Middle West, directed Hugh Lowery, president, to wire President Roosevelt that, "taking cognizance of the necessity of citizens to unite in the national-defense program," the union "declares that for the period of present rearming program its members will not strike or walk out or in any way disrupt the output of manufactured products vital to the national defense. All questions and problems between the employer and the union which the union is unable to settle will be submitted to the conciliation service of the Department of Labor."

Other independent unions cooperating with the Central States Petroleum Union in the oil, steel, and munitions industries, have likewise declared themselves.

Tax-Meeting Date at Lew Wentz Camp

The annual tax dinner of Kansas-Oklahoma representatives will be held at the Lew Wentz camp near Ponca City, Okla., during July 20, 21 and 22.

Permian Basin Association Program at Odessa

ODESSA, Tex., June 15.—The Permian Basin Association, organized the past year at Colorado City, Tex., for the purpose of promoting the interests not only of oil men, but of business men in the West Texas area, will open its second annual convention here Friday. More than 20,000 visitors are expected during the 2-day convention, which closes Saturday.

Elliott Roosevelt will speak Friday afternoon. Friday night, H. C. Wiess of Houston, president of the Humble Oil & Refining Co., will speak at the banquet honoring visiting legislators. J. C. Hunter of Abilene, president of the general Mid-Continent Oil and Gas Association, also will be heard.

Talks on the taxation problems of the oil industry are scheduled to be delivered by Berry Brown, Abilene; J. J. Kelly, Honolulu Oil Corp., Midland; Ben L. Lefever, American Maracaibo Co., Big Spring, and Don Davis, York & Harper, Midland.

From the various organizations of the state will be heard D. G. Gray, executive vice president of the North Texas Oil and Gas Association, Wichita Falls; J. C. Watson, secretary of the West Central Texas Oil and Gas Association, Abilene, and George C. Gibbons, executive vice president of the Texas Mid-Continent Oil and Gas Association, Dallas.

A.A.P.G. 1941 Meeting At Houston, April 2-4

The twenty-sixth annual convention of the American Association of Petroleum Geologists will be held April 2, 3, and 4, 1941, at the Rice Hotel, in Houston, Tex.

Decision of the officers and council of the association after a mail vote was announced by J. P. D. Hull, business manager of the organization, after Pres. L. C. Snider of New York approved the canvass. The host will be the Houston Geological Society, assisted by members of the San Antonio, Fort Worth, Dallas, and Tyler societies.

The association held its 1932 meeting at Houston, and this year it convened at Chicago. The 1939 gathering was at Oklahoma City.

Alberta Conservation Board Proposes Cut in Allowable

The Alberta Conservation Board has submitted to gas producers in the Turner Valley field a tentative proposal to reduce the aggregate allowable for gas wells from 62,000,000 to 55,000,000 cu. ft. a day. Under the proposed plan, the allowable for any gas well would be 36,000 cu. ft. multiplied by the acreage assigned to the well. Out of the total new allowable, all gas requirements of Calgary and other southern Alberta communities, as well as fuel-gas requirements of the field, must be satisfied. Absorption plants would share the production. The primary purpose of the conservation board is the maintenance of pressure in the gas cap, and to check gas production from wells.

MAGNETIC STORM

TUCSON, Ariz., June 17.—A moderate storm began June 14 at 2 a.m. and ended June 16 at 4 a.m. central standard time.

CALENDAR OF EVENTS

June

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, seventeenth annual meeting, Hotel Emery, Bradford, Pa., June 20-21.

KENTUCKY OIL AND GAS ASSOCIATION, midsummer meeting, Lexington, Ky., June 21-22.

PERMIAN BASIN ASSOCIATION, semiannual meeting, Odessa, Tex., June 21-22.

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

ILLINOIS BASIN CHAPTER OF AMERICAN PETROLEUM INSTITUTE, McCurdy Hotel, Evansville, Ind., June 29.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Spokane, Wash., September 3-5.

AMERICAN CHEMICAL SOCIETY, Detroit, Mich., September 9-13.

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

NATIONAL LUBRICATING GREASE INSTITUTE, annual convention, Stevens Hotel, Chicago, September 30-October 1.

October

NORTH AMERICAN GASOLINE TAX CONFERENCE, Whitley Hotel, Montgomery, Ala., October 3-5.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Wichita, Kans., Oct. 4.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., October 7-10.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

AUTOMOBILE MANUFACTURERS ASSOCIATION, Auto Show, New York, October 12.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, eleventh annual meeting, Dallas, Tex., October 16-18.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Shreveport, La., Oct. 25.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, annual convention, celebrating Texas oil's forty-fifth birthday, Fort Worth, Tex., October 31-November 2.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

December

EXPOSITION OF CHEMICAL INDUSTRIES, Grand Central Palace, New York, December 1-6.

1941

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Hotel Mayflower, Washington, D. C., March 3-7.

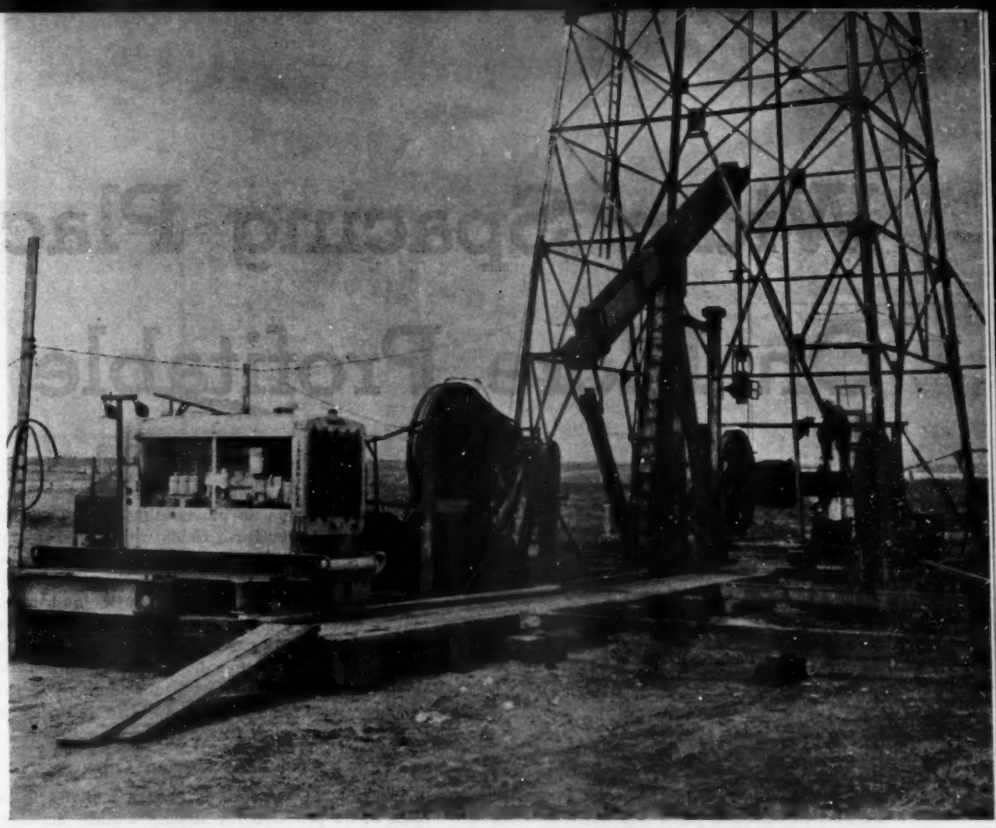
April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-sixth annual meeting, Rice Hotel, Houston, Tex., April, 2, 3, and 4.

NATIONAL PETROLEUM ASSOCIATION, semiannual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

June

AMERICAN SOCIETY FOR TESTING MATERIALS, forty-fourth annual meeting, Palmer House, Chicago, June 23-27.



Practically all of the wells in Kansas are now completed with cable-tool rigs which are modeled in part after modern rotary rigs. This power-driven cable-tool rig has all of its units mounted on skids, even the bull wheels being so mounted. Rigging-up time is kept to a minimum. The photo was taken in the Trapp pool, Russel County, Kansas

ENGINEERING & OPERATION

JUNE 20, 1940

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PIPE-LINE RELOCATION IN GRAND RIVER AREA
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Wider Spacing Places Kansas On More Profitable Basis

By HARRY F. SIMONS

KANSAS operators, after 3 years of seeing their market and income reduced due to development of fields closer to the refining centers, are now looking forward to a prosperous period. One of the principal justifications for the optimism is the progress which has been made under the wider spacing order, giving full credit to acreage up to 20 acres in the allocation of production. The knowledge that Illinois cannot long maintain its present rate of production and the fact that any decline in production from the eastern states will result in an increase in Kansas' market also is an encouragement.

Since issuance, last December, of the order granting full consideration to acreage, more than 70 per cent of the wells staked have been on 20-acre spacing and in addition there has been considerable development which may be later credited to a wider spacing plan.

Most of the Kansas oil production comes from fields located on major structures or on lenses along major features of old shore lines. Practically all of the reservoirs have a water drive with the water encroaching from the edges or bottom; most of the production from the prorated pools comes from the Arbuckle lime. Average porosity of the Kansas fields is from 12 to 15 per cent, while permeability varies from practically zero to as high as 5,000 millidarcys. The average drainage area is large and there is little doubt that one well will have the ability to drain 20 acres in most cases. Some of the fields can be adequately drained on 40-acre spacing, the Ellinwood pool being an outstanding example. It also has been recently demonstrated that the rate of withdrawal from reservoirs may have more effect on the total recovery than the spacing of the wells.

Under the old 10-acre spacing regulations, many Kansas fields were in the marginal class economically and discoveries of new pools did not mean much, as little or no development followed unless the new well was an outstanding one. The per-well allowable for flush fields was not sufficient to justify the drilling of new wells in many cases as the income from the development was so small that the time required for return of the investment almost equaled the time required to deplete the property. In many cases this led to the complete postponement of further drilling, unless a prolific field was indicated, or to the development of the property with just enough wells to protect the lease without regard to the drainage pattern.

Cost of Producing Oil

A review of the Kansas situation shows lease costs of $1 per acre for strictly wildcat acreage, $15 to $25 per acre for tightly leased wildcat acreage and from $50 per acre upward for proven acreage. The lease costs per well vary with each company, depending on how much unproductive acreage is held and how successful the respective land departments have been.

Cost of drilling development likewise varies widely, depending upon the difficulties encountered and how the well was completed; a good average figure for well investment in Kansas is $22,500, to which must be added $4,500 for production equipment. The cost of a producing well, exclusive of lease investment, thus totals $27,000; add the lease costs and it brings the total investment per well to approximately $30,000.

Lifting expense in Kansas is quite high as considerable trouble is experienced with corrosion, emulsion and salt-water disposal. The labor, repair of equipment and replacement of worn parts, and fuel bring the costs of lifting a barrel of oil to 25 cents. This does not include major repairs to the well or changes in equipment which run up the investment total.

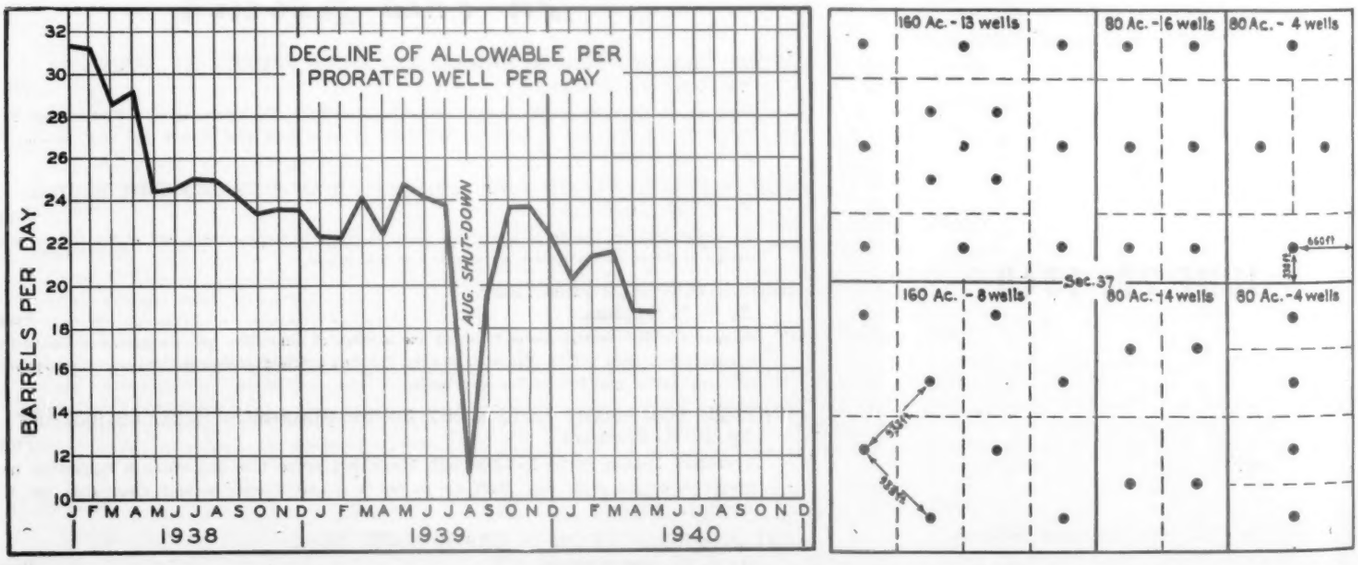
In addition to the above, interest on the investment must also be charged against the well, and this amount increases as the time required for the well to pay out increases. Charges for the first year of operation amount to $1,800 and for succeeding years it decreases according to the rate at which the debt is retired. The per-well allowable determines the time required to pay out the well and hence greatly affects the interest charges.

The average recovery per acre for Kansas fields is expected at the present time to be 7,500 bbl., with some fields producing as much as 10,000 bbl. per acre and some producing as little as 2,500 bbl. per acre. It is thus seen that the per-well income depends on the number of acres drained and the price of oil throughout the life of the well, while the net profit is determined by the investment costs and the rate at which it is amortized.

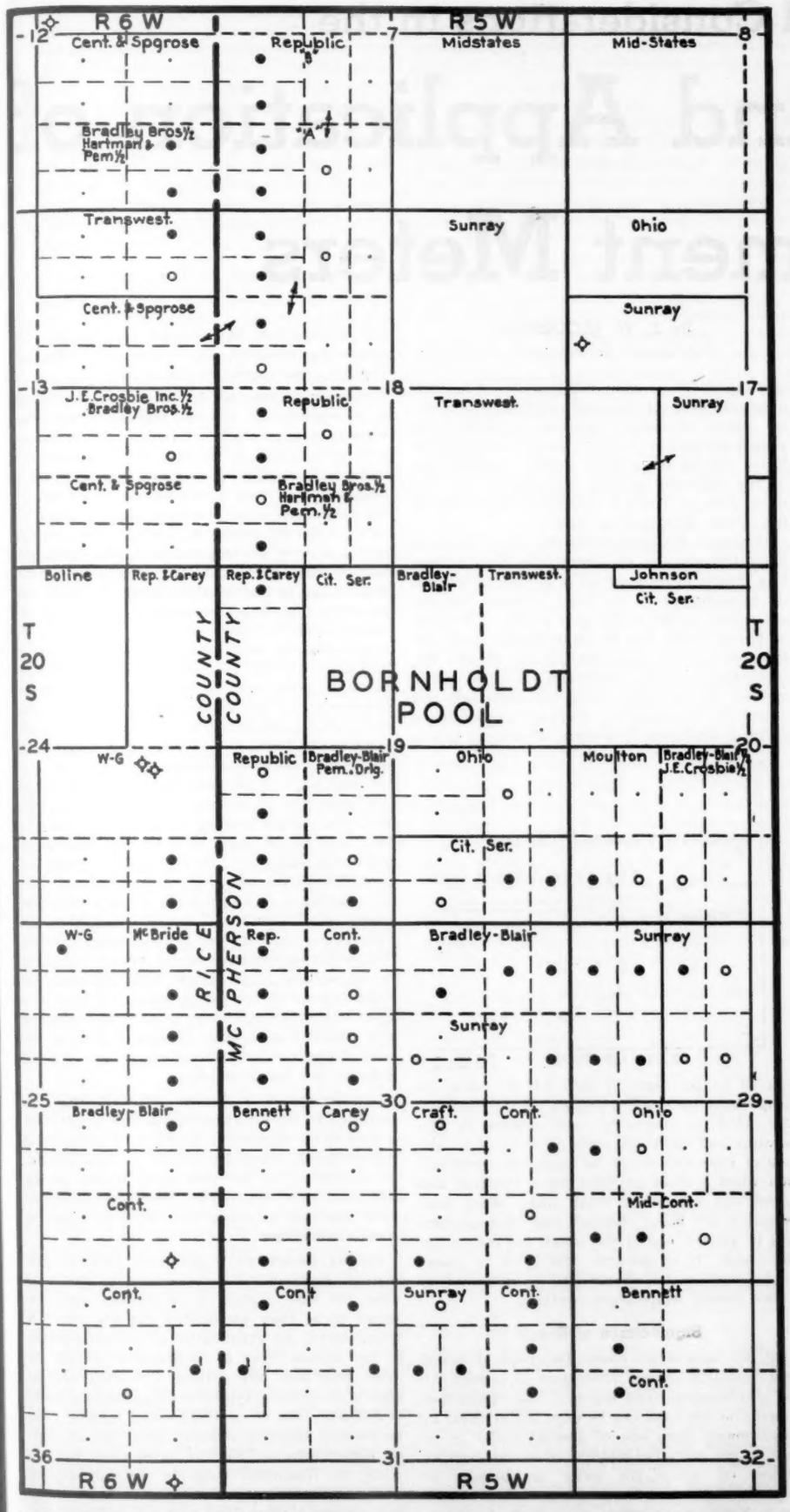
From January 1938 to May 1940 the per-well allowable for the proratable wells in Kansas declined from 31.29 bbl. daily to 18.82 bbl. daily as shown in chart.

The per-well allowable reached a low during the past month when it was 18.82 bbl. per day. At $1.06 per barrel of oil and at the present rate of production it takes 6 to 7 years to pay out the average well on 10-acre spacing, with from 50,000 to 60,000 bbl. being produced in that time. Between $6,000 and $7,000 will be charged for interest on the investment, much of which could have been saved to the operator had the well paid out in a shorter time.

The average well in the state on 10-acre spacing has only 20 to 32 per cent of its original reserve in the ground by the time it is paid out. This leaves a reserve underground of from 15,000 to 25,000 bbl., providing the well had an original reserve of 75,000 bbl. Some of the profit from the rest of the operation go toward financing poor wells and dry holes. The lifting expense on wells



Left: Chart showing the decline in prorated well allowable for Kansas for the past 2½ years shows a decrease in income to Kansas operators which is now being offset by wider spacing. Right: Some of the spacing patterns used in Kansas; at a glance it is obvious that the patterns do not match and an agreement on the spacing is necessary at the start of development if the maximum benefit is to be gained from wider spacing.



The Bornholdt pool in Rice and McPherson counties, Kansas is at present enjoying a rapid development. The discovery well in the field, C. R. Craft's No. 1 Bornholdt, SW SW SE Section 30-20s-5w, was light well in the Mississippi chat when completed in 1937. The field grew rapidly after 20-acre spacing started in 1939

near depletion begins to mount rapidly, oftentimes causing the abandonment of the well before it has been completely exhausted.

Operators have two remedies available. The first is to increase the per-well income and the second is to decrease the costs; some of the factors which will effect one of the remedies will also effect the other.

Of the three methods of increasing the income per well, two, a higher price per barrel and a greater market, lie behind closed doors. Wider spacing will increase the per-well allowable providing acreage is given full consideration in allocating the production. Costs of wells have been decreased in Kansas through the drilling of smaller holes, use of smaller casing and surface equipment and wider spacing of wells. The latter results in more oil per day and more total recovery per well.

Under the 20-acre spacing now in effect, the economics of the situation are much improved. With the increase in the allowable per well, the time required for the average well to pay out is decreased by more than 50 per cent; the investment for the average well being retired in from 2⅔ to 3 years. After the well has paid out there is still a substantial reserve remaining as only 46,000 to 53,000 bbl. have been produced and granting a 10 per cent loss caused by the wider spacing, there still remains more than 60 per cent of the recoverable oil in place. Some authorities contend there is no loss in total recovery under wider spacing and that actually the total ultimate recovery is increased.[5] This latter is an important factor as the amount of oil still in the ground often dictates whether a major repair job will be attempted on a well.

Actually, in a new field the length of time required for a well to pay out may be greater or shorter than the average, depending on the per cent field allowable. In the Stoltenberg pool of Ellsworth County the allowable is 0.54 of 1 per cent and a well in that field obtaining a potential of 3,000 bbl. (the maximum permissible under the present regulations) would receive an allowable of only 16.2 bbl. In the Hall-Gorham field in Russell County, the same size well would receive a daily allowable of 49.5 bbl., as the per cent allowable is 1.65.

The present order provides that allowables be granted on the basis of productivity of the well (acreage times potential) up to 20 acres. The productivity of the well is increased by 10 per cent for each acre over 10 acres in the location and decreased by 10 per cent for each acre under 10 acres. Previously, the only consideration granted to wells on 20-acre spacing was in computing the monthly potential on the decline curve, a well on 20 acres being charged with only one-half the withdrawal per acre that was charged against a well on 10-acre location.

Probably the most important feature is the return of the capital investment in less than half the time required formerly, thus permitting more wells to be drilled and more territory to be developed. Another important factor is the encouragement to completely develop a field and discourage the practice of drilling only the outside locations necessary to the production of the lease.

An example of the results of the wider-spacing order is given by the Bornholdt pool in McPherson County; this field was reported completely in The Oil and Gas Journal, March 21. It demonstrates how the discovery well in the field, not being particularly good, failed to encourage development under 10-acre spacing but was considered worthy of development under 20-acre spacing and gave indications that a good field was in the vicinity after a few wells had been drilled. It has since gone on to prove one of the better fields of Kansas. The map shows the present development in the area.

(Continued on Page 43)

Some Fundamental Considerations in the

Design and Application of Displacement Meters

By E. W. JACOBSON
Gulf Research & Development Co.*

IN the manufacture and application of displacement meters for measuring liquid hydrocarbons, extravagant claims of precise measurement have often been made. These have led to considerable trouble from failure of the meters to perform as claimed and from failure not only to check measurement by gage tanks but also to check one meter against another. The limit of error most often quoted is 0.1 per cent. Let us examine this limit of error as to its actual magnitude and the difficulty of obtaining measurement within this limit.

The most commonly used primary standard of measurement, the 5-gal. sealer's measure, is difficult to get closer than 1 cu. in. in 5 gal., and even the most accurate measure cannot be depended on to be more accurate than the nearest 0.5 cu. in. This situation was confirmed by considerable test work at the Gulf research laboratory using both the weighing method with distilled water at constant temperature and a precision balance, and the beaker method.

One-tenth per cent is 1.15 cu. in. in 5 gal. and 23.1 cu. in. in 100 gal., or in more familiar terms, is approximately one tablespoonful in 5 gal. The cubic inch division marks on the necks of most 5-gal. measures are about 5/64 in. apart, and reading of the liquid level is likely to be in error by at least $\frac{1}{8}$ in. even when quite carefully done; besides, the amount of liquid adhering to the walls of the measure will vary by half a tablespoonful or more after subsequent emptyings. These factors, coupled with the personal error introduced by the operator, make possible an actual error of 0.1 per cent or more per measure. These errors may tend to cancel out or may become cumulative, depending upon both the operator and the accuracy of the setting of the gage marks on the test measure. In other words, were a 100-gal. tank-type prover adjusted for accuracy using 5-gal measures of liquids at constant temperature, this prover could not be depended upon to be accurate within closer than 0.1 per cent for the reason that the primary standard, the 5-gal. measure, is no closer than 0.1 per cent. It has also been found that the 5-gal. measure must be handled very carefully following calibration to keep its accuracy within 0.1 per cent. A single small blow on the side of a measure will make a dent which may alter the volume by 0.1 or 0.2 per cent.

In our meter test work at the Gulf research laboratory, two 5-gal. measures set within 0.5 cu. in. in 5 gal. were used to calibrate the 100-gal. prover. Several trial fillings of the prover were required to give an average reading for the correct setting. Such painstaking work would not ordinarily be used in calibrating meter provers for field use or in gaging tanks.

It is readily seen, therefore, that provers or measuring tanks will be inaccurate at least 0.1 per cent if checked with ordinary 5-gal. measures and liquids at constant temperature. Additional error may be involved in such checking operations by failure to observe due care in maintaining wetted surfaces in the 5-gal. measures and prover. There will be some slight further variation due to the different wetting qualities of the test liquid and the liquid hydrocarbon to be used in the prover or measuring tank.

The above discussion holds true only if constant liquid temperatures are maintained. Should there be a change in temperature of the liquid between its measurement in the 5-gal. measure and the subsequent setting of the gage marks in the tank or prover, there may be an additional error due to expansion or contraction of the liquid. The coefficient of cubical expansion for liquid hydrocarbons lies between 0.0004 for crude oils and 0.0007 for gasolines at ordinary temperatures, which is equivalent to a range of changes in volume of 0.1 per cent for each 1.4° F. change in temperature for gasoline and 2.5° F. for crude oil. The effect on volume by small changes in temperature can easily introduce an error of 0.1 per cent or more and should be taken into consideration when a check between meter readings and gaged tank volumes is being made. When temperatures are being checked, two thermometers will be needed, one at the meter and one at the gage tank. If an accurate test is to be made, these thermometers should also be calibrated to insure correct temperature readings.

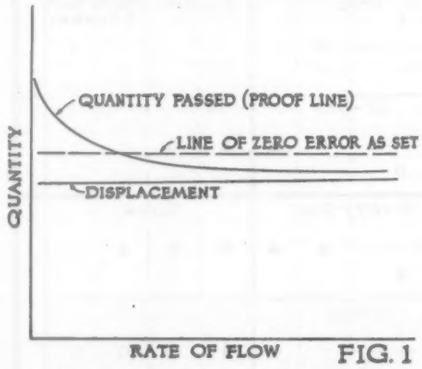


FIG. 1

Significance of Errors

On the basis of the above discussion, it would seem logical to expect differences of at least 0.1 per cent between meter provers. This means that a meter of one make can be expected to differ in measurement from one of another make by at least 0.1 per cent disregarding any intrinsic meter errors; i.e., errors the meter has because of its design. The significant thing about intrinsic errors is that there errors can actually be determined by careful calibration on the particular liquid being measured. By use of this calibration, the readings may be corrected for error so that precise measurement may be obtained within the limit of error present in the prover.

Individual gage-tank measurements are bound to be considerably in error because of the large volume of fluid involved in slight differences in level in the tank. It has often been declared that individual tank-gaging errors average out over a long period of time. This may be true; however, the calibration error is always present and may cause wide differences in measurement over a period of time as compared to a well calibrated and properly installed meter. The errors which may be had in individual tank gage readings can be better understood when some of the Gulf research laboratory tests on the visible-bowl gasoline-dispensing units are examined. Extensive tests on the ability to read the level in the 10-in. diameter glass bowl of one of these units as determined by the gallon markers showed that errors from —19 cu. in. to +3 cu. in. were quite possible. In terms of the volume of a sale of 1 gal., this amounts to a variation of error of —8.2 per cent to +1.3 per cent. It was further found that only with great care in setting the markers and very careful reading of the level could the measurement be made to meet the sealer's requirements of ±7 cu. in. in 5 gal. or ±0.66 per cent. Comparing this with the accuracy of reading gage marks in a large tank, it would seem that errors of at least 1 or 2 per cent would be the rule, rather than 0.1 per cent as often claimed. That is taking the error in the level as compared to the volume of the whole tank. Of course if small quantities are being measured from one level to another in a tank, those errors probably will exceed that amount. Errors of 5 to 10 per cent in reading the level are conceivable if small volumes are being measured.

The conclusion is that 0.1 per cent error corresponds to laboratory precision and is too close a limit to be expected in any type of commercial measurement, either by meters or tank gaging. Two-tenths to 0.3 per cent error should be the minimum error required for precision meters and even this may be exceedingly hard to obtain in some applications.

Having established a minimum limit of permissible error of measurement, let us next consider the basic design of the meters now produced as to their capabilities for meeting this requirement. An examination of the basic design of the several types of displacement meters reveals that they are divided into two general classes in regard to type of sealing; namely, pack-sealed and film or capillary-sealed meters. The pack-sealed metering elements make use of leather, composition, or metallic ring-packed pistons, while the film-sealed metering elements depend on very close working clearances between moving and stationary parts filled with a thin film of the fluid being metered.

These two types of meters are characterized

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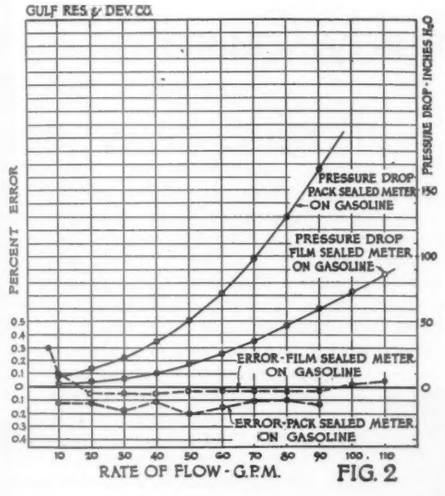
by rather marked differences in performance. The pack-sealed metering element has relatively much higher pressure drop because of the friction caused by packed contact between fixed and moving parts. This internal friction may be controlled more or less by using the right combination of materials, adjustment of pressures between rubbing surfaces, etc., and is only partly dependent on the viscosity of liquid passing through the meter. The film-sealed metering element, on the other hand, has relatively low pressure drop because the fluid friction of the film seal is quite noticeably lower than the rubbing friction of the pack-sealed element.

Pressure Drop Increases

In the film-sealed meter, not only the pressure drop but also the slip varies with the viscosity of the liquid being metered. The pressure drop increases with increase in viscosity because of the increased friction in the sealing film as well as greater resistance to flow through the meter. The slip decreases with increase in viscosity of the metered fluid because of the better sealing effect of the higher viscosity film.

A displacement meter is in reality nothing more or less than a fluid motor with high volumetric efficiency operating under very light load. This load is made up of the friction of the metering element and the work required to drive the registering mechanism. A displacement metering element has a certain amount of slip, namely, the excess of fluid passed through the meter over and


GULF RES. & DEV. CO.
PERCENT ERROR
PRESSURE DROP - INCHES H2O
PRESSURE DROP PACK SEALED METER ON GASOLINE
PRESSURE DROP FILM SEALED METER ON GASOLINE
ERROR - FILM SEALED METER ON GASOLINE
ERROR - PACK SEALED METER ON GASOLINE
RATE OF FLOW - G.P.M.
FIG. 2

above the amount actually displaced in the metering element. A plot of the displacement data for a typical metering element is shown in Fig. 1, wherein the quantity is plotted against rate of flow. The amount of slip depends upon the viscosity of the liquid, load on the metering element, and various factors inherent in the design of the element, the same as in a fluid motor. Since the slip depends on these factors, variation of any one or all of them will alter the location of the proof line by an amount depending upon the particular characteristics of the meter.

Having located the proof line for a particular set of conditions the meter is then adjusted, either by changing the gear ratio of the register drive or by altering the displacement, so that the line of zero error as indicated by the register will cross the proof line to give the minimum average difference between the zero error value and the proof line values. In this case, the errors are both plus and minus instead of all minus when referred to displacement. The line of zero error, since it is set by mechanical means, remains fixed with reference to the displacement line. On the other hand, the proof line changes shape and position by varying amounts as the slip is affected by the above mentioned variables, so that the error of measurement also changes. Any wear which takes place in the meter will increase the slip and thus further alter the error.

From the standpoint of low slip, namely the difference between the actual displacement and the amount of liquid passing through, the pack-sealed displacement-metering element probably comes the nearest to being a perfect fluid motor of any mechanism yet devised. The slip through a good pack-sealed metering element is in general much less subject to variation in friction and register load than in the film-sealed element. This holds particularly true on liquids in the range of viscosities of gasolines and very light crudes.

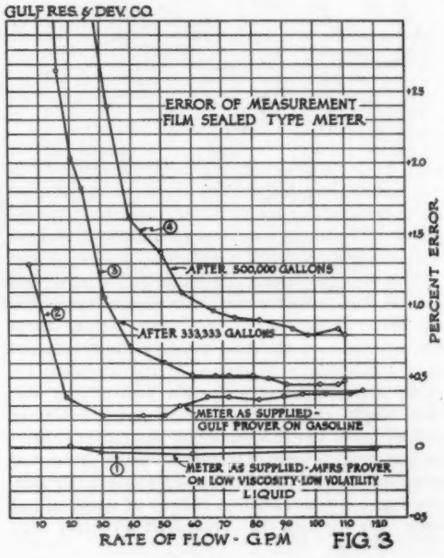
The importance of the effect of register load on the slip in the metering element has not been sufficiently realized. The ideal meter register would, of course, be a frictionless one which took no power to drive it. Instead of designing with this in mind, the tendency has been to make the register more and more complicated and thus add more and more load on the metering element which drives it. The pack-sealed element usually can stand quite an additional load without very much effect on the slip. On the other hand, the film-sealed element is quite sensitive to changes in load and exhibits quite marked increases in slip with small increase in register load. This tendency has been brought out very pointedly in the present-day service-station pumps where the meter is required to drive the heavy load of the computing register. Here the film-sealed meter has been practically eliminated from use as the heavy load causes excessive error of measurement, especially at the lower rates of flow.

In our extensive test work on the field of gasoline meters, the major portion of all the meter troubles was traceable directly to the registers. Some registers placed such a load on the metering element that, in a short time, wear had taken place beyond the limit of compensation of the error-adjusting mechanism. Other registers became corroded and ceased to function entirely. Still others, especially on the film-sealed meters, needed only to have a slight amount of additional friction introduced into their workings to change the load on the metering element enough to throw the error of measurement 1 to 2 per cent off.

Condition of Liquid Must Be Ideal

It is been pointed out in the literature that if precise meter measurement is to be obtained, the condition of the liquid must be as nearly ideal as possible. That is, the liquid must be free of suspended solids (abrasives and otherwise), water, and entrained gas in the form of bubbles; and must be stabilized against evolution of absorbed gas as the liquid passes through the meter. In order to remove the solids, water, and entrained gas, the flow of the liquid must be sufficiently reduced so that settling and separation can take place. This can likely be done in a single chamber of suitable size. Screens are of some use for the service; however, the more important principle is one of allowing enough time for separation to occur before the fluid is allowed to enter the meter. Several schemes have been proposed and are now in use for sampling the fluid as it passes through the meter. By calculation based on the analysis of the sample, a correction factor is determined, which when multiplied by the meter-register reading, will give the true measurement. A small correction factor based on the presence of water and very small amounts of entrained gas may be permissible in some installations where the correction factor does not exceed 1 per cent. However, a correction factor over 1 per cent should indicate that the separation equipment must be improved if meter measurement is to be reasonably accurate.

The pressure drop in the meter influences the separation of absorbed gas from the fluid as the fluid passes through the meter. The pack-sealed meter, since it has higher pressure drop, can be expected to cause more absorbed gas to be evolved in the meter than in the film-sealed meter. The evolution of gas takes place instantaneously with reduction in pressure and the evolved gas is not readily reabsorbed. The high pressure drop of the packed meter will also cause somewhat greater error of measurement through greater expansion of entrained gas. The error due to expansion of entrained gas or evolution of absorbed gas can be greatly minimized by the simple expedient of placing the meter at a point lower in the line by an amount equal in pressure head to the maximum pressure drop in the meter. In this case the expansion of entrained gas or evolution of gas will take place in the line beyond the meter rather than in the meter, and the meter will then read the actual quantity of liquid as it is received. In case a meter is being checked against a gage tank and there is a significant length of pipe to cause friction loss between the meter and the tank, the drop in pressure will cause wide variation between the two measurements merely by its effect on the gas in the liquid. The best installation for such a check would be to place the dis-


GULF RES. & DEV. CO.
ERROR OF MEASUREMENT FILM SEALED TYPE METER
AFTER 500,000 GALLONS
AFTER 333,333 GALLONS
METER AS SUPPLIED - GULF PROVER ON GASOLINE
METER AS SUPPLIED - MFRS PROVER ON LOW VISCOSITY-LOW VOLATILITY LIQUID
PERCENT ERROR
RATE OF FLOW - G.P.M.
FIG. 3

charge of the meter directly on the opening into the tank.

The effect of suspended solids on the performance of the two general types of metering elements varies with the design. Solid particles of particular size to fit the clearances in the film-sealed meter may cause additional friction load on the element, and since the slip of this type of element is quite sensitive to change in friction load, will significantly affect the error of measurement. On the other hand, in the pack-sealed element, suspended solids, even though they may not be able to affect the sealing, can cause a great deal of trouble by becoming embedded in the sealing material and in the bearings so as to cause excessive wear. Deposition of suspended solids from the fluid stream by centrifugal force may also give trouble in both types of meters.

An examination of error curves for representative well-designed meters of the two types shows that each type will give measurement within ±0.2 per cent error, under ideal fluid conditions. Fig. 2 shows both error curves and pressure-drop curves for representative well-designed meters of

the pack-sealed and film-sealed types on gasoline. Even though there is a great difference between the pressure drop curves for these two meters, the error curves are excellent, with better performance shown only by the pack-sealed meter at rates of flow below 10 per cent of the rated capacity. This particular film-sealed meter had very light register load. With very slight adjustment, the pack-sealed meter could be made to measure with a variation of only 0.1 per cent error.

Fig. 3 shows curves for another, less satisfactory, film-sealed meter. These curves show not only the effect of viscosity of the liquid on the error of measurement of this particular meter, but

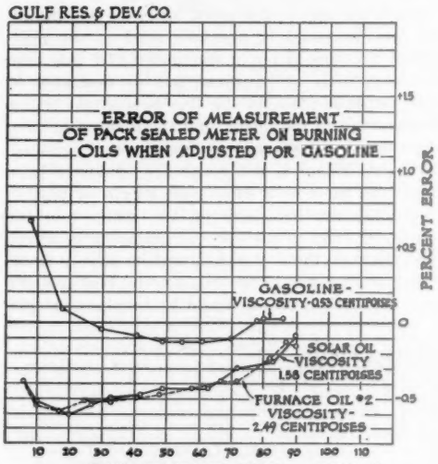


FIG. 4

also show the effect of wear and change in register load. Curve No. 1 is the error as determined on the new meter by means of the manufacturer's prover. The liquid used was of low viscosity, near that of gasoline, but was quite low volatility. This meter, when checked immediately afterward on the Gulf laboratory prover on gasoline, gave the error curve No. 2. This difference of about 0.3 per cent on the two provers illustrates not only the possible difference in measurement between two supposedly accurate provers but also that slight change in viscosity or lubricating properties of the fluid causes a significant change in the error curve. Curves 3 and 4 show the error curves of this film-sealed meter after one-third and one-half million gallons of gasoline had been run through it. This drift in error was caused by wear in both the metering element and the register, and a slight increase in register load due to the wear and corrosion of parts.

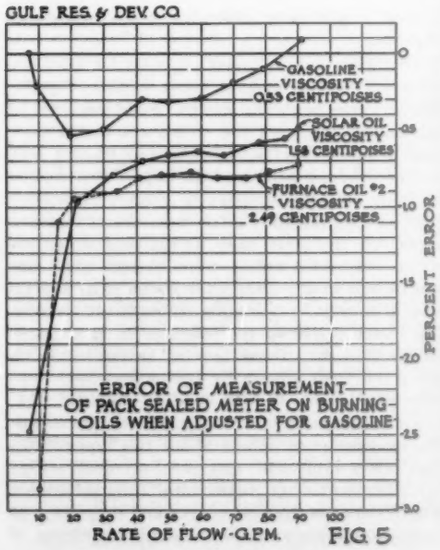


FIG. 5

The effect of viscosity on the performance of a fairly good pack-sealed meter is shown in Fig. 4. Here wide difference in the error curve is shown between gasoline and the burning oils. Even though the difference in viscosity between gasoline and solar oil is nearly the same as that between the solar oil and furnace oil, the error curves for the two burning oils differ very little. Fig. 5 shows similar curves for another meter of the same make and identical construction as the meter in Fig. 4. The point to be noted here is that the performance of the two identical meters varies widely at the low flow rates.

It can be concluded from these error curves that there are some meters of both the pack and film-sealed types which will be accurate within 0.2 per cent provided they are carefully calibrated on the fluid for which they are to be used. If the fluid is at all volatile, such as gasoline or crude oil, then the prover must provide means for testing by isolating the calibrating fluid against evaporation loss during testing. This was done in the laboratory prover by surrounding the test fluid with water so that evaporation could not take place. If the meter is calibrated on one fluid only and is then used on other fluids, errors in the neighborhood of 0.4 to 0.5 per cent can be expected. Quite frequent calibration and good maintenance will be required to maintain the error of measurement within these limits.

From this discussion of fundamental considerations, it can be concluded that first, the claimed standard of measurement has been closer than commercially practical; second, a close study of the characteristics of the two types of displacement meters, namely pack and film sealed, indicates particular fields of application for each type, depending upon accuracy of measurement required, permissible pressure drop, nature of register load, and range of viscosity of fluids to be metered; third, the economics governing the installation of displacement meters must consider the cost, not only of the meter, but also the additional cost of adequate liquid-conditioning equipment, calibrating devices, and regularly scheduled maintenance if satisfactory meter performance is to be obtained.

Acknowledgement

The writer is indebted to R. J. S. Pigott, chairmen of the fluid-meters committee, for suggesting the material for this paper, which was based on fluid-meter tests made at the Gulf research laboratory, Pittsburgh, Pa., as a part of the 25-year program of the A.S.M.E. fluid-meters committee.

SAFETY - Sturdy Guard on Engine Flywheel

FREQUENTLY guards are a potential source of danger, particularly if they are removed to make repairs or adjustments on the machinery or for any cause. The operating personnel of a plant becomes accustomed to having the guards in place and learns to depend on their being there. This is provided for in most industrial plants by establishing an ironclad rule that no machinery is to be put in operation unless all guards are properly in place.

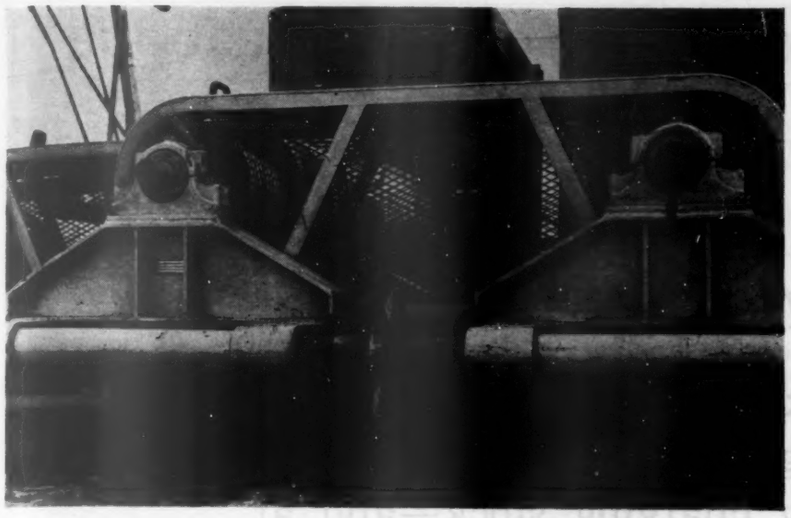
For various reasons these rules are often violated, sometimes with fatal or near-fatal results. A safer procedure is to design guards that will provide protection when the machine or engine is in operation and yet will not have to be removed to allow the performance of some routine task.

The guard pictured here is of the permanent type which does not have to be removed unless major repairs are being made on the engine. It is built around the flywheel of a large gas engine used to drive directly an electrical generator in a gasoline plant and is made from 1½-in. pipe with a slot provided for turning the flywheel with a bar.

Cranking of the engine by turning the flywheel is unnecessary as an air compressor is provided for this purpose. The engine flywheel is used to get the pistons in position for starting and for turning the crankshaft while checking the timing and making other adjustments. Without the slot the guard would have to be removed each time this was done. Failure to replace the guard immediately might result in leading to an accident.

That the slot in the guard is used often is indicated by the fact that the bar turning the engine flywheel is kept in a hole in the floor provided for that purpose. This is also a safety device as it eliminates the danger of the bar being left on the floor where someone could trip or stumble over it.

Handwheel Adjustment for Engine Skids on Power Rig



Power rigs are equipped with a variety of devices for adjusting the position of the engines, gear box, and clutch on the framing skids. The purpose of these adjustments is to get each part of the rig in its proper position within a fraction of an inch and to keep the V-belts and chains tightened. The quickest method used is a 1½-in. bolt with a right-hand thread on one end, a left-hand thread on the other, and a stationary nut in the center. The ends of the bolt are screwed into companion threads in adjoining pieces of equipment and by turning the bolt the distance between the two items of machinery is either shortened or lengthened, the principle being the same as a turnbuckle. One Illinois contractor has eliminated the necessity of finding the proper wrench each time an adjustment of the distance is necessary. A handwheel attached to the stationary center nut provides the leverage for turning the right and left-hand bolt, necessary for making the adjustment.

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Operating Ideas

Hose Connection for Cementing On Air Chamber

Drilling crews generally include a connection in the mud lines for the attachment of the cementing hose when it comes time to set the casing on the well. However, most of these are located at the base of the standpipe where they are partially inaccessible. One Illinois drilling contractor has reduced the time necessary to rig up for cementing by welding a 2-in. collar into the air chamber. This is sealed with a bull plug while normal drilling is progressing but the bull plug can be easily removed and a 2-in. nipple and a half union inserted for the attaching of the cementer's hose. Note the chain attached to the hose and behind the union which will hold the hose in case the connection breaks.

Handy Rack for Acid Bottles

Taking of vertical-deviation tests on rotary-drilled wells is a routine practice although the methods used by various contractors differ widely. This contractor uses the familiar acid bottle. The bottles are generally weakened by etching effect of the acid and will break easily if not protected. To get away from keeping the bottles in the "knowledge box" where they might be broken before the production department can get around to pick them up, one crew has built a special holder. It consists of box open on one side just wide enough to slide a bottle into it. The inside back of the box has supports for the lower end of the bottle while the front side of the box has nails across it to hold the top of the bottle. The bottles are inclined at about 60° and cannot fall out. As soon as the bottle is pulled from the hole, it is washed with clear water and a slip of paper bearing the depth of the test inserted into it; the bottle is then placed in the rack.

Concrete Counterweights

Changes in a pumping well's load, requiring the addition or removal of weights at the free end of the beam, often call attention finally to the loss of weight supplied previously. In most instances the scrap metal used as counterbalance originally has been taken and sold. After several unsuccessful attempts to catch the thieves at one location the producer cut away the cage in which the iron was racked, and in its place bolted two rectangular blocks of concrete, calculated to equal the weight obtained originally with iron. Exact balance of the unit is secured through the utilization of comparatively small rotating weights, adjustable on the crank, but not removable without special tools, and too readily recognizable to be freely accepted by junk dealers.

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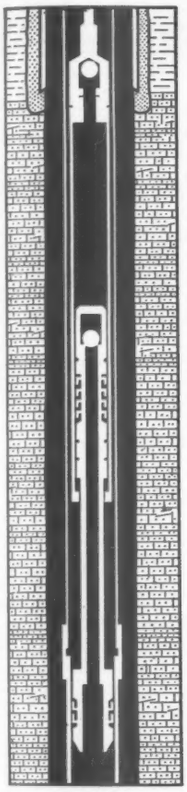
SUGGESTED FIELD PRACTICES

Recognizing and Overcoming Gas Lock in Pumping Wells

By T. P. SANDERS



A traveling-barrel rod pump of design suitable for overcoming gas lock. With correct spacing the traveling valve will closely approach the standing valve, leaving little room for gas to be compressed

GAS lock can be recognized by low pumping efficiency, provided that enough is known of the particular well to eliminate other possible causes for poor recovery. The volume of fluid to be expected under the given conditions of stroke, depth, and plunger size can be found in reference tables of the Producing Equipment Directory, Pages J-28 to J-44. If the actual volume of fluid pumped is considerably lower than the expected production read from the tables, the pumping efficiency is poor and measures should be undertaken to improve it. Aside from gas lock, other possible causes for poor recovery include:

1. Insufficient pump submergence.
2. Worn plunger or working barrel or both.
3. Leaking standing valve, traveling valve, or both.
4. Leaking tubing.
5. Loss of plunger stroke due to rod stretch or tubing movement.

A knowledge of whether or not the well can be pumped off will usually serve to indicate whether or not the pump intake has sufficient submergence. If there is any question in this regard, the fluid level can be determined while pumping by means of a sonic fluid-level test. (The Oil and Gas Journal, March 2, 1939, Page 49).

The extent of plunger and working-barrel wear can generally be estimated from length of service. Possibility of a leaking valve can usually be eliminated only by pulling the pump. Leaking tubing can be recognized in most cases by a simple test: With the tubing full, the well is shut down and the lead line is closed. A vacuum on the tubing head then indicates a tubing leak. The vacuum is detected by a gage or by the hand placed over the open bleed valve.

Normal rod stretch is taken into account in the reference tables, but if abnormal friction exists due to a close plunger fit, or to too many cups or rings on the plunger, or to sand interference, or to a crooked hole, the loss of stroke will be much greater. Abnormal loss of stroke may be recognized by an excessive polished-road load with frequent rod breakage, or by special knowledge of well conditions. If the tubing is not anchored near its lower extremity, tubing movement will contribute toward loss of effective pump stroke. This general subject will be treated in a later article of this series.

Gas lock is indicated when a well produces gas or frothy oil. The gas may enter the pump either in the free state or dissolved in the oil. In either case the result is essentially the same, the gas being expanded and compressed between the standing valve and traveling valve to prevent the normal filling and discharge of the barrel. Gas lock usually results in a noticeable pound at the polished rod, but not always. Dynamometer tests show that the cards taken where gas lock is present vary considerably with each stroke.

Overcoming Gas Lock

Methods used for overcoming gas lock include:

1. Use of a pump design in which the traveling valve can closely approach the standing valve on the downstroke. This reduces the space in which gas can be compressed between the valves. A "gas valve" in the bottom of the plunger may serve to accomplish this purpose.

2. Correcting the pump spacing. By lowering the rods a few inches, the plunger may be made to approach the standing valve more closely without "bumping." Speeding up the pump often has the same effect because the greater speed promotes overtravel, thereby reducing the clearance between plunger and standing valve.

3. Use of an oversized or streamlined standing valve. This offers minimum resistance to the incoming fluid, minimizing the evolution of gas from solution and the expansion of gas within the barrel.

4. Slowing down the pump. If the barrel is given more time to fill, there is less reduction of pressure in the barrel, and therefore less tendency for the gas to expand on the upstroke.

5. Use of a smaller plunger and barrel. This causes less fluid agitation, reducing the tendency to bring gas out of solution within the barrel.

6. Use of a gas anchor to promote separation of gas from oil before the fluid enters the pump. The gas anchor must be of such size that it will not restrict the flow of fluid into the pump, otherwise it will do more harm than good.

7. Maintenance of minimum pressure on the casing head to allow for free escape of gas from the fluid in the well bore. (In some wells the pump acts only as an agitator to aid the gas in flowing the well, and in this case better results may be obtained by closing the casing head to produce all gas through the tubing.)

8. Allowing sufficient space around the pump and tubing to permit free escape of gas. If the well bore is too small, an improvement can sometimes be made by shooting the well, thus making a cavity of large diameter about the pump.

9. Drilling a pocket or sump hole into the barren rock below the oil horizon. This sump may be 10 to 30 ft. deep with the pump set near the bottom. Since the oil must flow downward to the pump intake, this arrangement is highly favorable to gas separation. However, sand troubles may render this procedure impractical in some cases.

Wider Spacing Places Kansas on More Profitable Basis

(Continued from Page 35)

The discovery well, the C. R. Craft No. 1 Bornholdt, SW SW SE Section 30-20s-5w, was completed in 1937 for a 131-bbl. pumping well in the Mississippi chat. This continued to be one of Kansas' famous one-well pools until in May 1939, when Continental Oil Co., Bradley Brothers and Blair completed their No. 1 Mattson, CWL NW Section 31-20s-5w, for 770 bbl. flowing naturally. At the time there was a movement on foot to obtain wider spacing in the state and the second well had been drilled on a 20-acre spot. Operators began to seek an agreement for 20-acre spacing in the field and Everett Bradley of Bradley Brothers, Wichita, worked out a spacing plan which has since been followed throughout the development of the pool. Most of the wells have been drilled in the center of east-west 20-acre locations, although there has been considerable drilling on north-south 20-acre locations and several quarter sections have been developed under a special pattern which calls for a pair of 20-acre locations on the north and south sides of the quarter, a 20-acre location on the east and west sides of the quarter and two east-west 20-acre locations in the center. These can be seen on the map in the NW of Section 31 and the NE of Section 36; in the W½ NE of Section 31 is a "diamond eighty" pattern.

Most objections to the present spacing arrangement in Kansas concern the pattern to be followed. It is estimated that 95 per cent of the spacing plans use the rectangular 20-acre tracts which result in wells being 660 ft. apart in one direction and 1,320 ft. apart in the other direction. In one direction the wells are as far apart as they would be on 10-acre spacing and in the other the distance is the same as 40-acre spacing. That some fields have been successfully drained with 40-acre locations has been advanced to offset this objection. Furthermore it is contended that under slow rates of withdrawal the particular location is not important in so far as ultimate recovery is concerned, the requirement that the well be in the center of the unit being designed to give a truly representative sample of the productivity of the unit.

Generally the operators would prefer a more uniformly distributed pattern such as that given by drilling alternate 10-acre locations. In this case the wells are 933 ft. apart in directions running northeast-southwest and northwest-southeast. Such a pattern is difficult to institute because the lawyers of some operators still believe that direct north-south or east-west offsets are required.

One pattern places nine wells to 160 acres, locating the wells 440 ft. from the quarter-section line and 880 ft. apart. This pattern is excellent from the standpoint of uniformity and gives a density of 17.7 acres per well. However, it does not fit into an area where there are tracts of less than quarter-section size and most Kansas fields are broken by small tracts.

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DRILL-M

HERE'S the power that will take your rigs and put them through their paces—*steadily* and *economically!* For "Caterpillar" Diesel Engines are built with a toughness that can stand up against hard-boiled requirements! And when it comes to economy, you've not only got low repair costs to help you out, but low-cost fuel, and low consumption as well!

Texas. Pennsylvania. Oklahoma. Illinois. Wyoming. Mississippi. California. Or name your own field. Regardless of where it is, you'll see plenty of "Caterpillar" Diesel Engines at work . . . keeping at it 24 hours a day, 7 days a week . . . and their dependability is backed by the world's most complete and readily available engine parts-and-service facilities!

WHEN BUYING DRILLING AND PIPE-LINE EQUIPMENT, SPECIFY "CATERPILLAR" DIESEL POWER

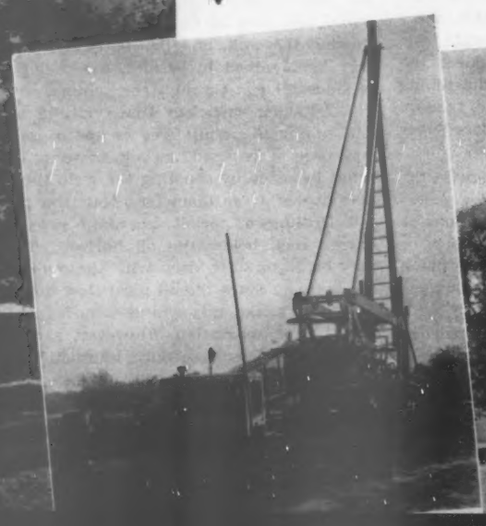
CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

A "Caterpillar" Diesel D4400 Engine installed in a "boat" and powering a cable tool rig and electric welder for Mrs. Lou Potter Mullhaupt, Bradford, Pennsylvania. This engine is using only 1 gallon of 6½c fuel an hour. Mrs. Mullhaupt also owns a "Caterpillar" Diesel D4 Tractor and a "Caterpillar" Diesel D6 Tractor!

Two "Caterpillar" Diesel Engines owned by the Centralia Pipe & Supply Co., Centralia, Illinois. Asked about these engines, Supervisor Roy Routh said: "Wouldn't have any other kind!" The D4600 engine drives a Highway Trailer Rig. Is shown at 2454 feet. The other "Caterpillar" Diesel Engine is a D13000 on a 7¼ x 10 Gardner-Denver pump. Going 24 hrs. a day!

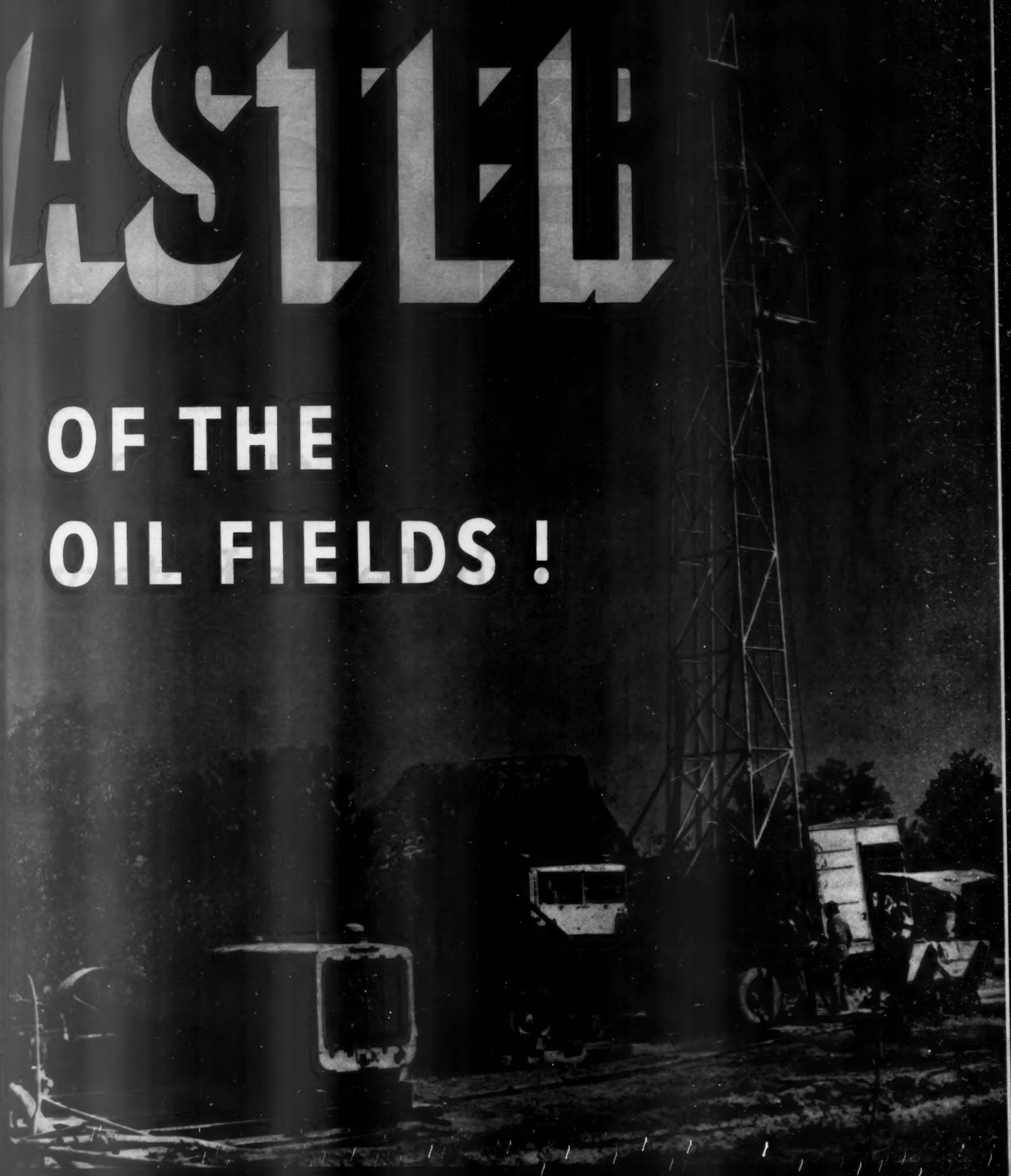
This Wichita Falls Spudder, powered with a "Caterpillar" Diesel Engine owned by S. H. Walton of Wichita Falls, Texas, is drilling-in behind a rotary rig at 4000 feet. 24-hour-a-day going in the K.M.A. field! This engine is using 25 to 30 gallons of 5½c fuel per day.

3000 feet in 25 days! That's what the Pioneer Drilling Co., of Salem, Illinois, got with these two "Caterpillar" Diesel D13000 Engines on a rotary rig—Wilson draw-works, and Gardner-Denver pump! Field at Keensburg, Illinois.



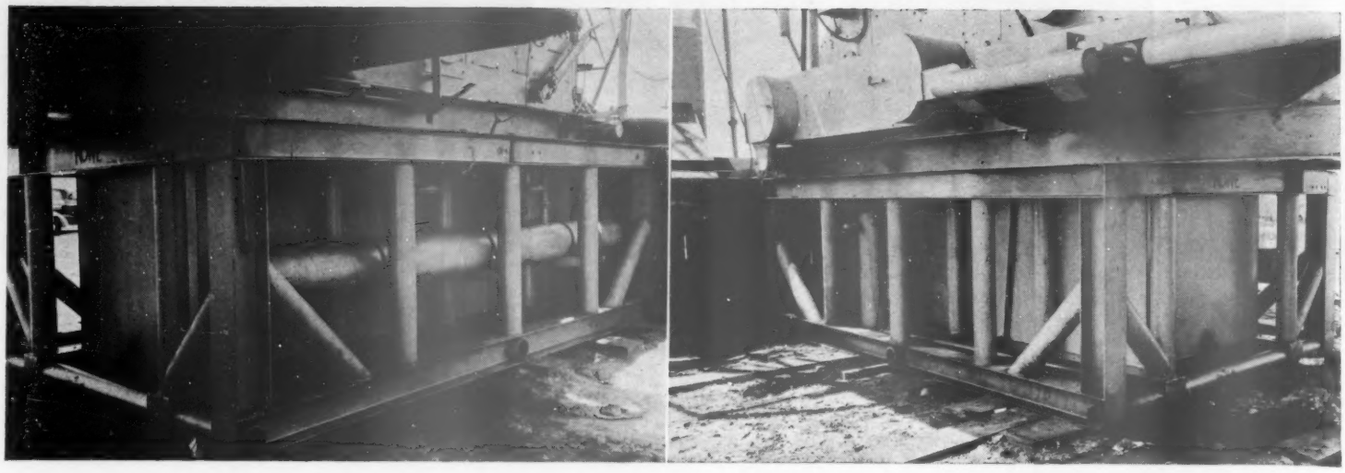
LASTER

OF THE OIL FIELDS !



CATERPILLAR

DIESEL ENGINES AND ELECTRIC SETS • TRACK-TYPE TRACTORS • ROAD MACHINERY



A reservoir for cooling water and facilities for scrubbing and regulating the pressure of the natural-gas fuel are combined into the engine substructure. The scrubber is shown at right above, while the pressure cylinder and regulators are shown at left. Two arms, shown in the right view, swing from the substructure to support walkway

Unitized Equipment Cuts Cost of Moving North Texas Rotary

By D. H. STORMONT

THROUGH assembly of drilling equipment into highly unitized sections, each mounted on skids, and arranging the various units so that they may be set up or torn down with a minimum of time and effort, a drilling company has effected a substantial saving in the time required for moving one of its rotary rigs drilling in the Hull-Silk field of Archer County, North Texas. The various sections are trucked from location to location without dismantling, and the derrick is usually left intact and skidded. Thus not only does this permit a saving in time and costs, but also acts to prolong the life of some equipment that sometimes is damaged each time the rig is dismantled. In addition to the unitization features contained in the rig, effort was made toward incorporating certain safety features in its design.

The rig, operated by Rowe Brothers, Inc., drilling contractors of Wichita Falls, Tex., has been used to drill two wells in the Hull-Silk field and is now digging a third hole. One of the wells was completed in a 3,800-ft. pay, and pointing to the "hole making" ability of the rig is the fact that only 7 days were required to drill from the surface pipe to the casing point. The rig is powered by two 225-hp. gas engines, and is rated to drill up to 6,000 ft.

Above: A device for automatically throwing the draw works out of gear if the cathead rope starts piling up on the cathead

Left: This utility unit when in use is placed alongside the engine substructure so that its roof likewise forms a walkway along transmission side of engines

The unitized draw works and transmission are mounted on an 8 by 22-ft. main skid, made from 12-ft. by 12-in. H-beams, to which the bases of both the draw-works engine and pump engine are bolted. This main unit is left intact when moving and is hauled in one load, thus very little time and labor are required for its being moved. Its approximate total weight is 54,000 lb. with the two 225-hp. engines. The skid is slid directly from a 6-ft. substructure onto a large tandem truck, which moves it to the new location where it is again skidded onto the substructure, the latter having been placed in position in advance of the unit's arrival.

The 6-ft. substructure unit differs from that ordinarily used in that into it is built a cooling-water reservoir and a scrubber, volume tank and piping for handling the natural-gas fuel. The rig is equipped with water-cooled friction clutches and brakes so in order that the cooling-water reservoir would not have to be handled as a separate piece of equipment it was built to fit into the substructure. The reservoir, of about 60-bbl. capacity, is removable whenever necessary though ordinarily it is left in place. Supplies of water suitable for cooling are usually very limited in this area during most of the year, thus by providing this adequate reservoir the rig never has to be shut down for that reason.

On one side of the substructure is placed an 8-in. oil scrubber for removing impurities from the fuel gas, and on the opposite side is placed a large-volume tank (12-in.) for minimizing pressure variances in the fuel supply. Individual lines take the gas to each of the engines, passing through pressure regulators and smaller volume tanks mounted on the engine skids. By this arrangement wherever the rig is moved it is necessary only to disconnect the fuel supply line to the rig, the lines from the volume tank to the engines and the cooling water supply line. Arrangement of this equipment is shown in the two

(Continued on Page 53)

Progress in METALS

By W. L. NELSON

New Method of Welding Carbon-Molybdenum Piping

Abstract: "Oxyacetylene Welding of Carbon-Molybdenum Steel Piping for High-Pressure, High-Temperature Service," Part I, Rooke, R. M., and Saache, F. C., on "Laboratory Development" and Part II, Kugler, A. N., on "Field Testing and Application." 45 mimeograph pages. A presentation of the engineering staff of the Air Reduction Sales Co., New York, before the fortieth annual convention of the International Acetylene Association, April 10-12, 1940, at Milwaukee, Wis.

NEARLY all installations of carbon-molybdenum piping to date have been fabricated by arc welding using carbon-molybdenum electrodes. Now, after careful study and experimental work, the Air Reduction Sales Co. announces the following:

"On the basis of this work we can now recommend the oxyacetylene welding of carbon-molybdenum steel pipe in any of the sizes and weights currently employed in power-plant practice. The requisites for successful application are: First, the welding rod of the carbon-molybdenum analysis designed for oxyacetylene welding; and second, the use of the multilayer welding technique modified as indicated; third, the employment of stress relief by any of the methods mentioned."

These conclusions are the result of a comprehensive laboratory study, followed by field tests to further check the laboratory results and finally a limited amount of commercial installation data which are being rapidly amplified as additional commercial results become available. One small installation has been complete for over a year. This system operates at 1,800 lb. per sq. in. and 900° F.; and utilizes 2-in., 3-in., and 4-in. piping. "Multilayer welding employing three layers of weld metal was used on all three sizes of pipe. The work was performed under the usual field difficulties and involved all of the usual types of joints. Stress relieving was accomplished with oxyacetylene torches heating the joints uniformly to a temperature of 1,400° to 1,450° F. and immediately upon reaching that temperature covering the joints with asbestos blankets or paper and plugging any open ends. The stress-relieving temperature was checked with a pyrometer. This project was installed by the owner's forces and no attempt was made to rush the job. The following interesting production data were obtained during the course of construction:

3-in. position weld 50 min. plus 5 min. for stress relief
3-in. rolling weld 40 min. plus 5 min. for stress relief
2-in. position weld 40 min. plus 4 min. for stress relief
2-in. rolling weld 30 min. plus 3 min. for stress relief

The daily production rate averaged eight 3-in. or ten 2-in. welds. Under test conditions and in approximately 1 year's operation no leaks or failures of any nature have developed. One of the expansion loops is illustrated in Fig. 1."

The study culminated in a set of "Process Specifications for Oxyacetylene Fusion Welding of Carbon-Molybdenum Steel Pressure Pipe Lines" which will be published later on this page. These specifications cover such important factors as materials, equipment, types of grooves, welding methods, cleaning of weld, sizes of torch tips, and methods of stress relieving.

The oxyacetylene method is thought to hold the following advantages over the arc-welding method: (1) Less time is required by 50 to 67 per cent, and (2) the equipment is portable and is available on most construction jobs. The welding operations do not differ greatly from the current methods used in welding plain carbon steel. Analyses of satisfactory welding materials are given in Table 1. Little loss of molybdenum occurs during welding and hence the welding should have approximately the same analyses as the base metal.

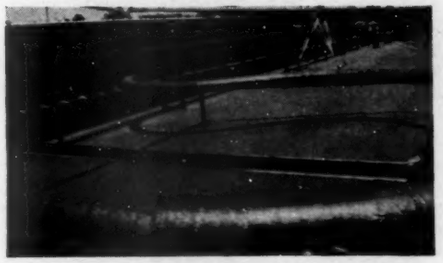


Fig. 1—Carbon-molybdenum steel expansion loop

TABLE 1—CHEMICAL COMPOSITION OF WELDING MATERIALS AND WELD METAL

	A.S.T.M. specification A206-38T	Pipe analyses	Welding rod	Weld metal
Carbon	.10/.20	.136	.123	.119
Manganese	.30/.60	.40	.99	.50
Phosphorus	.04 max.	.012	.030	.029
Sulfur	.05 max.	.011	.010	.008
Silicon	.10/.50	.16	.22	.01
Nickel		.04	.05	.03
Molybdenum	.45/.65	.52	.43	.48
Chromium		none	none	..

The welding procedure is:

"(A) Welding rod shall be as recommended.

"(B) Pipe shall conform to A.S.T.M. proposed specification A206-38T.

"(C) Concurrent heating.—All pipe of ⅝-in. wall thickness or greater shall be preheated by either of the following two methods listed in the order of their preference:

"(*a*) Continuous preheat.—The pipe preheat shall be maintained during the entire welding operation by either electrical means or with a single or multiflame tip applied as close to the weld region as practicable.

"1. When using a torch, sections on both sides of the beveled edge at the full thickness of the pipe should be heated to such a temperature as to show red directly under the preheating flame.

"2. When using electrical coils, the temperature of the section immediately under the coils should be preferably not less than 1,100° F.

"(*b*) Intermittent preheat.—The pipe preheat shall be applied intermittently by the welding operator at his discretion alternating with the deposition of the weld metal in steps.

"(D) Weld data.

"(*a*) Bevel pipe to an angle between 30° and 45°, 37½° being preferable.

"(*b*) Spacing.—Space pipe ends approximately $\frac{1}{16}$-in. to ¼-in.

"(*c*) Size rod.—Use ⅛-in. to $\frac{3}{16}$-in. welding rod for first two layers of multilayer welds.

"(*d*) Multilayer weld.—Use the multilayer method of welding for wall thicknesses ⅝-in. or greater, using at least one layer for each 5/32-in. of wall thickness.

"(E) Heat treatment.—The entire weld shall be normalized after welding by either of the following methods:

"(*a*) Progressive torch normalize.—After the welding is completed, reheat the entire weld at least once to temperatures above 1,600° F. Start at the end of the last layer of weld metal and reheat the face of the weld until it shows red in a continuous circumferential traverse with the torch.

"(*b*) After the hottest portion of the weld has cooled below the critical temperature (or below a red color), reheat the entire weld uniformly to a temperature of at least 1,600° F. and allow to cool in still air or at a slower rate of cooling.

"(F) Stress relief.

"(*a*) When the progressive method of torch normalizing has been used, the pipe weld shall be heated with the torch or heating coils directly following the torch normalizing pass, to an approximately uniform temperature as indicated by a dull red color.

"(*b*) When the weld has been reheated uniformly, an additional stress relief is not necessary if the pipe can be slowly and uniformly cooled."

Welds by the oxyacetylene method indicate full compliance with code requirements. Specimens of the weld materials exhibit a very fine-grain structure and are remarkably free from defects.

●

Cast Metals Handbook

Book Review—Cast Metals Handbook, 1940 Edition, American Foundryman's Association, 222 West Adams Street, Chicago, Ill., 638 pages.

THE methods of manufacture, variations in properties, and diverse applications of castings are more involved in many instances than for wrought alloys. For these reasons the new edition of the Cast Metals Handbook is particularly welcome, and the book goes far in clarifying the difficulties enumerated above.

Men of the petroleum industry will be most interested in the discussions of the properties and applications of the low-alloy (drilling) and high-alloy (high temperatures) cast steels, and specifications of cast steels. One page is devoted to specific applications of alloy cast irons to the oil-refining industry. Many other references to applications for the petroleum industry are scattered throughout the book.

The book is highly practical and yet does not neglect fundamental theory. In common with most other metallurgy books it leans toward technical matters rather than plant applications, and although it is deficient in this respect in the opinion of this reviewer, it goes much farther into plant applications than most books. It contains numerous and useful references to the technical literature. The book should not be classed as an ordinary trade-association publication and is a real contribution to our knowledge of castings.

●

Slush-Pump Rods

The arduous conditions under which slush pumps must operate has been met in part by the D. & M. Machine Works, of Torrance, Calif., by the use of carburized nickel-steel pump rods. The rods are highly stressed during service because of the high pressure or because of the jerky motion of the pistons when handling gaseous mud.

This company has found that S.A.E. 2315 (3.5 per cent nickel, 0.15 per cent carbon) steel case-hardened, behaves very well under such conditions.

This is the first instance of the use of this steel for this service that has come to our attention.

●

Metallurgical Terms

Case and Core

In discussing objects, the surfaces of which have been hardened or altered by some process such as carburizing, cyaniding, nitriding, etc., it is necessary to differentiate between the surface and the inner part of the object. The "case" is defined as that portion of the object in which the carbon or nitrogen content has been substantially increased, and the "core" as that portion which remains substantially unaltered in chemical composition.

The word "core" is also used in two other ways:

1. To indicate the inner part of a billet or bar rolled from rimmed steel as different from the rim or rimmed portion.

2. To designate a body of sand or other material that is placed in a casting mold to produce a cavity or opening in the casting.

Pipe-Line Relocation In Grand River Area

By F. M. HIERONYMUS
Holway & Neuffer, Consulting Engineers

Ditched into solid rock. Pipe double-coated and wrapped. Grand River project, Pensacola Dam

ALTHOUGH there is little oil production within the 10,000-sq. mile drainage area in Kansas, Missouri, and Oklahoma, the construction on the Grand River of the Pensacola Dam is of interest to many people connected with the oil industry. Beyond the pleasant knowledge that the oil people of the Southwest have one of the finest playgrounds in the country within a short drive of their homes is the more important fact that this project has been used as a test case for Governor Phillips in his attempts to block construction of such federally sponsored undertakings as the Red River Dam where oil development is vitally concerned. And two major pipe-line companies, each with two trunk lines in venerable locations within the lake area, have faced the necessity of relocation of their lines in order properly to safeguard their deliveries of oil to refineries in central and eastern United States.

Pensacola Dam is a self-liquidating hydroelectric and flood-control project, financed by federal funds and built under control of the Grand River Dam Authority as a state undertaking, the board members being appointed by the governor of Oklahoma. The financial structure contemplates amortization of the bonds in 30 years, beginning with 1943, from revenue received from the sale of power.

The principal features of the construction program include a power house, the longest multiple-arch-type concrete dam in the world, involving over 550,000 cu. yd. of concrete, a series of spillways and Tainter gates for flood control, and transmission lines for the distribution of the minimum 200,000,000 kw. hours per year of power available from the four turbine-driven generators installed under present contracts. The dam will impound a lake of 46,000 acres at elevation 745, of which 18,000 acres are being cleared of timber under four separate contracts.

Incidental Contracts

Among the incidental contracts which the Grand River Dam Authority has let for replacing existing improvements in this area are those for construction of new waterworks at Grove and Vinita, relocation of telegraph, telephone, and power-transmission lines, of the K. O. &. G. and Frisco railroads, and of the crude-oil pipe lines of Ajax Pipe Line Co. and Shell Pipe Line Co.

In each case an agreement was negotiated between the owner of the pipe line and the authority as to the details and volume of the work necessary to replace the property to be damaged, and the approval by the owner of the authority's plans and specifications for the conduct of the work. The Shell and Ajax pipe-line contracts Nos. 15 and 16. respectively, in the authority's schedule, were for the relocation of pipe lines across the Grand River, under both the old and the new locations of the Frisco, and across each other at a point near Wyandotte, Okla., at the head of the lake now under construction. These contracts also included the removal and salvage of the old lines.

In their old locations each company had two parallel 10-in. lines; the Shell lines involving 40,000 linear ft. of pipe; the Ajax 56,000 linear ft., with about 600 ft. of each line built of 54-lb. river pipe. In the proposed lake area a great deal of the old standard-weight line pipe would have been under water, since both lines in their old locations ran diagonally across a wide place in the lake area. The agreements with each pipe-line company provided for reconditioning all of the old pipe and incorporating it into new lines crossing the inundated area at a much narrower point, approximately 1 mile south of the old crossings. The Shell lines consisted of one screw line laid in 1917 and one riffle-welded line built in 1929, both laid with 20-ft. joints. The Ajax lines were built in 1930 of riffle-welded 20-ft. joints. The relocation work was done during the early winter of 1940. The old lines were taken up and relaid one at a time so that oil could be diverted into one old line during removal of the other and into the first new line while the second old line was being reconditioned and relaid.

Below: Laying pipe in Grand River bed. Solid rock excavation across river

Above: Very rough country. Much rock excavation for which contractor was paid extra

The old pipe was hauled to a centrally located yard, run through a stationary cleaning machine, reconditioned, and the pipe then incorporated into the new lines. Welding for both reconditioning, and laying the new line was by the electric-arc method. All old pipe was asphalt-coated, felt-paper wrapped

and was found to be in very good condition. New pipe necessary to complete the lines was furnished by the contractor in 40-ft. lengths.

The lines were relocated at the point of shortest possible distance across the proposed submerged area consistent with acceptable terrain on either side. Each Ajax line contains 1,900 ft. of 54-lb. steel river pipe with cast-iron river clamps at 40-ft. intervals across the old river channel. Each line is buried in the ground in the submerged area as well as above the lake level to avoid the possibility of floating timber snagging the lines. All river pipe is treated with a double coating of asphalt enamel, spirally wrapped with felt paper. The remainder of each line is uncoated except at hot spots on the Ajax lines located by resistance tests of the soil

Below: One Ajax line on right and one Shell line on left, on adjacent rights-of-way

Above: Pensacola Dam into distance. Intake structure in right foreground, and Disney in background. Old Ketcham-Disney Ferry in river, used as work barge. Ferry was later sunk by waves during storm

conducted by their engineers before the contract was let.

Crossover and block valves were installed above the shore line on each side.

Provision was made for the installation of a wind-driven electric-generator cathodic-protection unit for each company's lines. Each unit is served by horizontal ground beds, the Ajax preferring steel pipe for anodes; the Shell selected 2,000-lb. chunks of cast iron.

The two company's lines were handled in a similar manner except that the new Shell location crosses a much wider lake area; but each line comprises 4,300 ft. of 54-lb. river pipe. Their new lines were reinforced at each weld in the river channel by an electric-welded heavy-steel split sleeve. In conformity with the Shell Pipe Line Co.'s practice only the pipe between the contour lines of the lake is coated. All rock encountered was paid for on a yardage basis as excavated. All four lines were tested with water to at least 75-lb. pressure before being tied into the existing system.

The telephone and telegraph lines serving both these companies are being rebuilt under other arrangements along the new Frisco railroad fill. The pipe-line relocation was done under contracts let by the Grand River Dam Authority to Leo Sanders of Oklahoma City, who also built the Frisco relocation in the same area and the 4½-mile railroad spur and bridge to the dam.

The contract price of the Ajax lines was $85,274.50; for the Shell lines $68,748.80. Holway & Neuffer, who designed and supervised all other contract work for the Grand River Dam Authority, were the consulting engineers. The work was financed by the Public Works Administration on a loan and grant basis.

Unitized Equipment Cuts Cost of Moving North Texas Rotary

(Continued from Page 46)

views of the substructure, the main members of which are constructed from 8 ft. by 8-in. H-beams with 6-in. pipe used for bracing.

The rig's utility unit is arranged so that it is driven from the draw-works motor and is placed alongside the skid supporting the drilling engines and draw works. The unit is made up of a 5-kw. generator, centrifugal water pump, a 20-hp. multicylinder engine and usual auxiliary equipment. These facilities are driven by a belt drive from the shaft of the draw-works engine when drilling so that the auxiliary engine is used only when both of the drilling engines are used for hoisting the drill pipe. This, of course, permits a great saving in the wear on the auxiliary engine.

Probably the most novel feature of the utility skid is the fact that its roof serves the dual purpose of providing a walkway along the transmission side of the drilling engines. Height of the 5-in. uprights is such that the walkway provided (i.e., the roof of the utility unit) is level with the top of the drilling-engine substructure. The combination roof-walkway was cut from ¼-in. steel plate. The unit is welded throughout with sufficient bracing used to afford a sturdy walkway. Since the platform provided by the utility unit is not as long as is needed, a short piece of steel is laid from the derrick floor to the unit.

On the front side of the drilling engines the walkway is formed by a length of flat steel supported by the derrick floor on one end and by arms from the engine substructure at the middle and other end. The arms are hinged to the unit and may be folded alongside the substructure whenever the rig is to be moved. Additional support for the walkway is given by legs placed under the outer edge. These supports have steel rails for bases with 4-in. pipe forming the legs.

The two 225-hp. engines are arranged in tandem with the front engine driving the draw works and the rear engine driving the mud pump in normal operation. Either engine can drive either way in case of emergency, and both engines can be compounded for coming out of the hole or for driving both the mud pump and rotary table at the same time.

One of the notable features of the rig is the provision whereby the draw works is automatically thrown out of gear if the cathead rope should start piling up on the cathead. In using the cathead to spin the drill stem, or its other uses, usually accidents do not occur as long as the hope is slipping smoothly upon the cathead. It is when the rope starts piling up that accidents most frequently occur. Therefore, in order that the draw works would be immediately thrown out of gear if the rope starts piling up, the automatic device shown in the accompanying photograph was designed and patented by L. P. Rowe, of Rowe Brothers, Inc. This photograph was taken when the rig was being moved.

An arm, the length of which is adjustable, allows one wrapping of rope on the cathead, but if the rope starts piling up then the arm operates a trigger arrangement which, through a cable, causes a steel rod welded to the bottom of the draw works to make a quarter turn. A foot clutch normally is held open by the rod, but when the rod makes a quarter turn a notch cut in it permits the clutch to operate so that the draw works is immediately thrown out of gear.

Unitization is carried even to the pipe racks, which are made of steel rails welded to the top and bottom of the legs so that the rack is formed of only three pieces of equipment.

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FIELD OPERATIONS

Summarizing the Week's Developments

ILLINOIS—Wells of large flush production in a small area in the Clinton County side of the Centralia field did much to send Centralia production up 19,640 bbl. to a new peak of 75,450 bbl. per day. State production reached an average of 478,491 bbl. per day. Salem production fell off 2,160 bbl. per day.

TEXAS: Gulf Coast—A wildcat in the Ogburn area, Harris County, was showing gas, distillate, and salt water in drill-stem tests. A new pay in the Esperson field in Liberty County and extensions to the Wilson Creek field in Matagorda County were features of the week. On the Louisiana side of the coastal area the Valentine field in La Fourche Parish was extended.

Southwest Texas—A pool was opened southeast of Sandia in Jim Wells County. The Stratton gas field in Nueces County yielded its first crude-oil well.

West Texas—An Andrews County wildcat indicated an important discovery when produced at the rate of 240 bbl. daily, based on hourly flows. The northern basin's Slaughter-Duggan area was given its final link location which should do much toward determining whether or not these large fields are on the same structure.

West Central Texas—Eight new wildcat locations were made, two in Stephens County, one each in Palo Pinto, Brown and Callahan counties, and three in Hamilton County.

North Texas—A new deep Ordovician oil discovery was in prospect in Wilbarger County at Amerada Petroleum Corp.'s No. 1 Goodpasture, a few miles from the Red River, and a 3½-mile extension was in the making for the recently discovered Omohundro area in western Montague County.

Eastern Texas—Shell Oil Co., Inc., has staked its long-awaited deep wildcat test in Bowie County. It is contracted to 6,000 ft. and will test the lowest Cretaceous sections to be found in eastern Texas.

OKLAHOMA—Gas pools were opened 4 miles west of the Bebee pool, Pontotoc County, and in Muskogee County. A Gilcrease sand pool was opened in Pontotoc County. Dutcher sand production was found in Heyburn area, Creek County.

KANSAS—A pool opener was completed in eastern McPherson County, near the abandoned Wenger area. A well midway between the Wilkins and North Wilkins pools in Ellsworth County found oil in Arbuckle lime, assuring connection of the two areas. Wildcat exploration increased, seven new outposts being started.

TEX-LA-ARK—The Miller County, Arkansas, discovery well in Section 1-17-27, produced 100 bbl. per hour and the Lafayette County discovery in Section 29-17-23, started off at 21 bbl. per hour.

MICHIGAN—A 1,400-bbl. well in the Walker field in Kent County was the best of nine new oil wells completed last week.

Completions in All Fields

(Week Ended June 15, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	68	9	1	78	1,795	1,412
Ohio	11	9	6	26	483	424
Indiana	1	1	3	5	160	105
Kentucky	6	12	6	24	223	281
Illinois	83	1	8	92	1,635	1,563
Kansas	40	1	9	50	737	529
Michigan	9	1	13	23	595	593
Oklahoma	29	7	14	50	846	838
Texas:						
North Central Texas	47	1	22	70	1,467	1,101
West Texas	54	0	1	55	1,028	869
Texas Panhandle	8	5	0	13	278	177
East Texas	5	0	0	5	128	240
East Central Texas	2	0	3	5	122	120
East Texas Border	1	0	1	2	30	32
Gulf Coast Texas	29	0	4	33	611	637
Southwest Texas	22	3	14	39	1,059	1,090
Total Texas	168	9	45	222	4,723	4,266
North Louisiana	8	2	2	12	279	243
Gulf Coast Louisiana	16	0	7	23	428	263
Total Louisiana	24	2	9	35	707	506
Arkansas	4	0	2	6	95	112
Montana	6	0	0	6	78	63
Wyoming	1	0	0	1	65	43
Colorado	1	0	0	1	8	4
New Mexico	9	0	4	13	316	275
California	12	0	1	13	506	429
Total United States	472	52	121	645	12,972	11,443
Total previous week	409	29	123	561		
Week ended June 17, 1939	353	39	113	505		

Outstanding Fields—Highlights

(Week Ended June 15, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	10	49	8	4,636	1,385	37,000
Hull-Silk	23	55	14	10,709	280	8,000
Wasson	18	47	15	16,377	851	28,637
Ector County	21	64	14	13,023	2,167	50,650
Jones County	4	18	0	0	628	8,246
East Texas	6	8	5	122	25,998	396,996
OKLAHOMA						
Oklahoma City	0	16	1	986	850	81,900
Cement	1	17	5	1,277	311	7,250
KANSAS						
Bemis	0	7	0	0	319	8,000
Burnett	1	11	1	350	97	5,970
Silica	0	10	1	1,753	631	11,950
Trapp	2	11	5	1,653	545	13,250
NEW MEXICO						
Lea County	13	48	7	1,187	2,483	90,050
Eddy County	7	67	2	186	574	15,530
LA-ARK-TEX						
Cotton Valley, La. (deep)	2	2	0	0	161	14,595
Olla, La.	3	11	1	150	13	1,990
Golden Meadow, La.	2	9	3	703	91	12,640
MICHIGAN						
Allegan County	4	25	1	25	488	7,647
Kent County	3	16	3	1,552	321	13,193
CALIFORNIA						
Montebello	0	4	0	0	348	22,450
ILLINOIS						
Salem	37	113	28	30,822	2,047	241,011
Centralia	6	68	12	39,094	705	75,450
Louden	4	26	13	2,802	1,507	72,615
Other basin fields	25	233	30	6,261	2,140	78,140
Old fields	....	.....	.....	.....	.....	11,275
MISSISSIPPI						
Tinsley	1	4	5	3,700	60	9,315

Centralia's Devonian Output Sends Total to 478,491 Bbl.

By STAFF CORRESPONDENT

CENTRALIA, Ill., June 17.—Illinois produced an average of 478,491 bbl. of crude oil per day in the week ending Saturday, June 15, an increase of 22,568 bbl. per day over the average of the previous week. The Centralia field jumped up 19,640 bbl. to a new high of ending Saturday, June 15, an increase of 22,568 bbl. Salem declined 2,160 bbl. to 241,011 bbl.; other basin fields increased 1,016 bbl. to 78,140 bbl.; and the old fields of the state increased 1,893 bbl. to 11,275 bbl.

It is estimated that between 185,000 and 190,000 bbl. per day of the total production came from Devonian lime wells in the Salem, Centralia, Sandoval and Bartelso pools in Marion and Clinton counties.

Ninety-eight new operations were announced during the past week or a few more than the number of wells completed in the same period.

The Gulf Refining Co. completed a Devonian lime well on the Schmitz farm in Section 2-1n-1w, on which farm the first Benoist sand well was completed that opened the Centralia field late in 1937. The Devonian lime completion flowed 1,064 bbl. in 7 hours. It is first Devonian well on the farm which was owned by the Adams Oil & Gas Co., which farmed it out to Gulf for exploration of the Devonian.

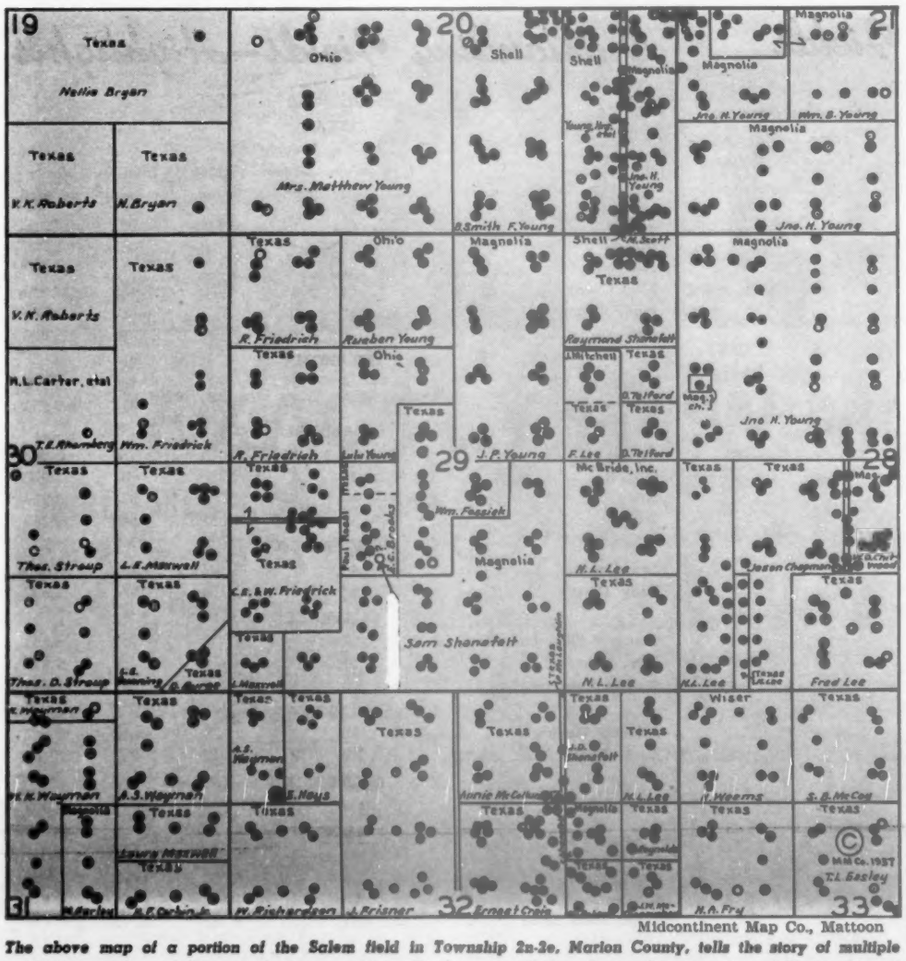
Late Texas Co. completions in Salem on which details of pay records and locations were not yet available include No. 22 Stroup, Section 30-2n-2e, 405 bbl. in 3 hours; No. 11-B Maxwell, Section 30-2n-2e, 636 bbl. in 6 hours; No. 9 Langford, Section 33-2n-2e, 21 bbl. in 3 hours from McClosky lime; No. 6 Hawkins Community, Section 8-1n-2e, 23 bbl. in 3 hours from McClosky lime; No. 56 City of Centralia, Section 5-1n-2e, 494 bbl. in 3 hours; No. 9 Farthing, Section 33-2n-2e, 336 bbl. in 3 hours; No. 34 Jett, Section 16-2n-2e, 246 bbl. in 3 hours; No. 16 Johnson, Section 6-1n-2e, 116 bbl. in 3 hours from Benoist sand; No. 14 Richardson, Section 5-1n-2w, 341 bbl. in 6 hours; No. 15 W. Stroup, Section 31-2n-2e, 364 bbl. in 3 hours. All the above wells were Devonian producers, unless otherwise noted, and had been acidized. They are not included in the detailed record of completions given below in this report.

Magnolia Petroleum Co.'s No. 108 J. H. Young, Section 21-2n-2e, flowed 758 bbl. in 24 hours, and No. 109 J. H. Young, 520 bbl. in 24 hours, both Devonian lime wells.

Following is the week's detailed production report, the initial production representing 24 hours unless otherwise stated:

Centralia Completions

In the Centralia field Adams Oil & Gas Co.'s No. 13-D Copple, C E½ NW SE Section 35-2n-1w, had Devonian pay at 2,893-2,903½ ft.; acidized with 5,000 gal. and the well flowed 229 bbl. per hour, or at the rate of 5,496 bbl. per day. Adams' No. 12 Copple, NW SW SE Section 35-2n-1w, was shot with 40 qt. at 1,353-65 ft., and pumped 30 bbl. in 24 hours. Shell Oil Co., Inc.'s No. 11-C Criley, C W½ SE SE Section 35-2n-1w, total depth 2,894 ft., flowed 6,110 bbl. in 13½ hours after a 5,000-gal. treatment in Devonian lime. It is a south offset to the big McBride well previously reported. Gulf Refining Co.'s No. 1 Schmitz-Kulmer, C E½ NE SE Section 2-1n-1w, pay at 2,877-89 ft., 3,000 gal. of acid, 4,313 bbl. Shell Oil Co., Inc.'s No. 5-C Koelmer, NE SW SW Section 1-1n-1w, pay at 2,872-85 ft., 5,000 gal. of acid, flowed 3,676 bbl. Samedan Oil Co.'s No. 1 Lippert Felton, NE cor. SE SE NW Section 1-1n-1w, pay at 2,862-89 ft., 5,000 gal. of acid, flowed 2,704 bbl. Gulf Refining Co.'s No. 3 Buehler Community, C W½ SW NW Section 1-1n-1w, pay at 2,889-2,903 ft., 3,000 gal. of acid, flowed 2,960 bbl. Gulf's No. 5 Central Buehler, C E½ NW NW Section 1-1n-1w, pay at 2,895-2,909 ft., 3,000 gal. of acid, flowed 5,081 bbl. in 23 hours. Gulf's No. 1 Adams Felton, C W½ NE NW Section 1-1n-1w, pay at 2,896-2,909 ft., 3,000 gal. of acid, flowed 5,056 bbl. Samedan Oil Co.'s No. 1 Brough Hausmann, NE cor. SW SW NE Section 1-1n-1w, pay at 2,881-94 ft., 5,000 gal., flowed 1,057 bbl. in 16 hours. Gulf Refining Co.'s No. 2 Buehler Community, C W½ NW SW Section 1-1n-1w, pay at 2,875-85 ft., 3,000 gal. of acid, flowed 2,282 bbl. in 10¼ hours. B. Fields' No. 1 Koelmer, SE cor. SW SW Section 1-1n-1w, pay at 2,899-2,918 ft., flowed 460 bbl., naturally. It will be acidized. Fields' No. 2 Buehler flowed 385 bbl., naturally, in 12 hours and will be acidized. Vic Nettell's No. 1 Milmaker, NE cor. NW NE Section 24-1n-1w, pay at 2,927-35 ft., swabbed 450 bbl. of fluid, 66⅔ per cent water. B. Fields' No. 1 Francois, NW cor. SE NW SW Section 12-1n-1w, pay at 2,916-20 ft., 3,000 gal. of acid, flowed 329 bbl. Amundsen's No. 2 Allison, 215 ft. from north and 424 ft. from east lines of NE Section 12-1n-1w, Devonian topped at 2,890 ft., total depth 2,957 ft. A core at 2,933-38 ft. recovered 4 ft. 9 in. of very tight dolomite and 9 ft. of very porous dolomite containing water. The well was abandoned.



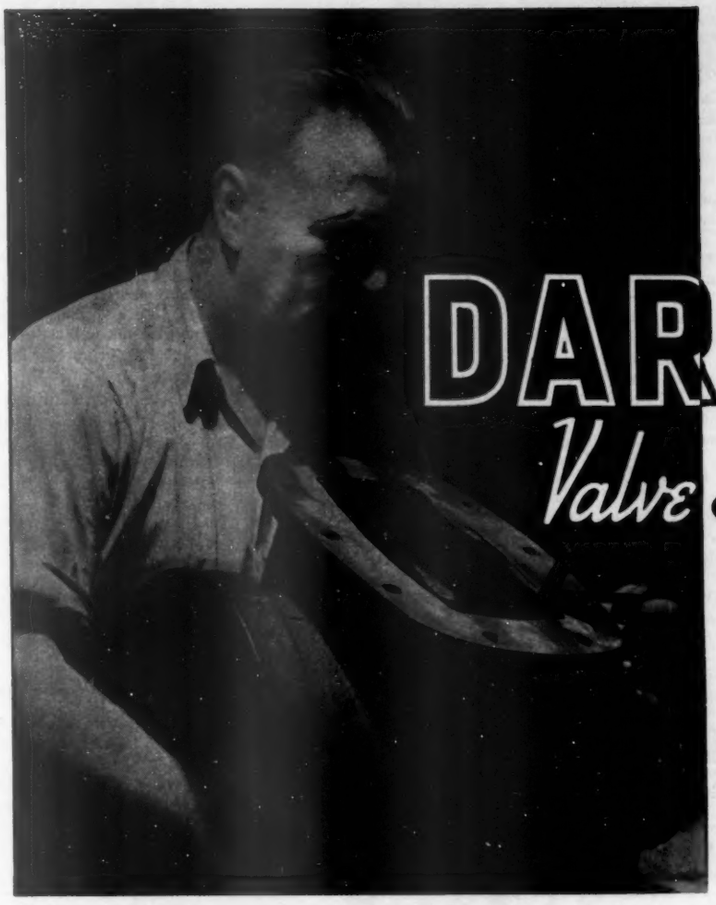
Midcontinent Map Co., Mattoon

The above map of a portion of the Salem field in Township 2n-2e, Marion County, tells the story of multiple producing sands and lime, and close spacing. Attention is called to the southeast quarter of Section 20 and the northeast quarter of Section 32, where drilling in roadways increased the number of producing wells

Marion County—Salem Field

Cameron and others' No. 1 Robinson, C N½ NE SW Section 4-2n-1e, in Marion County, was abandoned at 1,067 ft.

In the Salem field Magnolia Petroleum Co.'s No. 50 Chitwood, SW cor. NE SW Section 16-2n-2e, Devonian pay at 3,515-25 ft., 1,000 gal. of acid, flowed 600 bbl. Magnolia's No. 36 D. A. Shanafelt, NW NE NW Section 21-2n-2e, pay at 3,499-3,516 ft., 2,000 gal. of acid, flowed 2,304 bbl. Magnolia's No. 32 Chitwood, NE NE SW Section 28-2n-2e, pay at 3,485-3,521 ft., 4,000 gal. of acid, flowed 818 bbl. Texas Co.'s No. 26 Chapman, NW NE SW Section 28-2n-2e, pay at 3,440-82 ft., 5,000 gal. of acid, flowed 191 bbl. Texas' No. 16 Lee, NE cor. NW SE SW Section 28-2n-2e, pay at 3,448-68 ft., 5,000 gal. of acid, flowed 380 bbl. Texas Co.'s No. 23 Friederich, SW SW NW Section 29-2n-2e, pay at 3,400-50 ft., 5,000 gal. of acid, flowed 883 bbl. Texas' No. 28 W. Friederich, pay at 3,365-3,409 ft., acidized with 5,000 gal., flowed 474 bbl. John Pugh's No. 3, SE SW SW Section 30-2n-2e, pay at 3,488-3,517 ft., 5,000 gal. of acid, flowed 4,192 bbl. per day. Texas' No. 17 Dunning, NW SE SE Section 30-2n-2e, pay at 3,370-3,407 ft., 5,000 gal. of acid, flowed 1,331 bbl. Texas' No. 32 W. Friederich-A, NE SE NE Section 30-2n-2e, pay at 3,492-3,510 ft., 5,000 gal. of acid, flowed 750 bbl. Texas' No. 21 Stroup, NW SE SW Section 30-2n-2e, pay at 3,498-3,518 ft., 5,000 gal. of acid, flowed 1,449 bbl. Texas Co.'s No. 8-C Redd-B, SW SW NW SE Section 31-2n-2e, pay at 3,360-93 ft., 5,000 gal. of acid, flowed 120 bbl. Texas'



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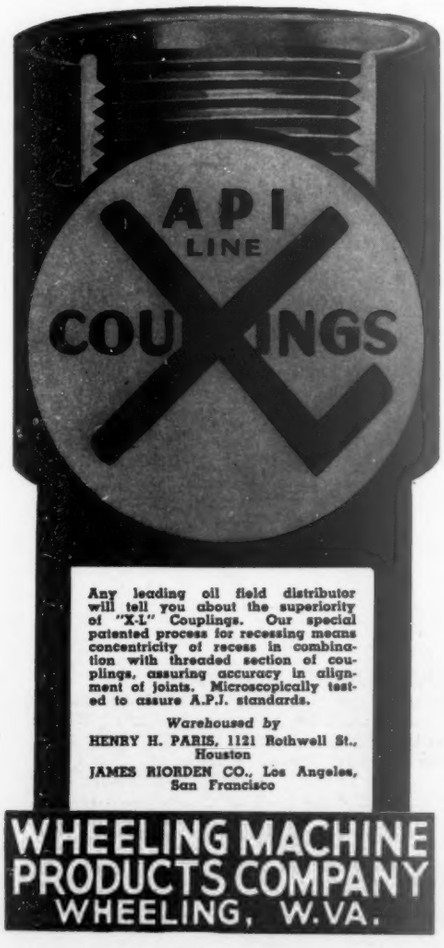
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No. 13 Stroup, NE SE NW Section 31-2n-2e, pay at 3,340 ft., total depth 3,375 ft., 5,000 gal. of acid, flowed 206 bbl. Texas' No. 23 Williams, SE SE SE Section 31-2n-2e, Devonian top at 3,255 ft., total depth 3,345 ft., 5,000 gal. of acid, flowed 3,271 bbl. Texas' No. 8 McConnaghay, SE SE SE Section 32-2n-2e, pay at 3,453-3,500 ft., 5,000 gal. of acid, 2,468 bbl. Texas' No. 8 Farthing, NW NE SW Section 33-2n-2e, pay at 3,500-47 ft., 5,000 gal. of acid, flowed 1,705 bbl. Texas' No. 11 Sands, NE NW SW Section 33-2n-2e, pay at 3,509-31 ft., 5,000 gal. of acid, flowed 428 bbl. Haynes & Thomas' No. 2 Chitwood, SW NE SE Section 21-2n-2e, Devonian lime at 3,499-3,601 ft., showed only water, and was abandoned.

Texas Co.'s No. 7 Carr-A, NW NW NE Section 5-1n-2e, Devonian pay at 3,380-3,427 ft., 5,000 gal. of acid, flowed 1,950 bbl. Texas' No. 57 City of Centralia land, SW NW SE Section 5-1n-2e, pay at 3,350-92 ft., 5,000 gal. of acid, flowed 1,669 bbl. Texas Co.'s No. 28 Kalkbrenner, NE SE SW Section 5-1n-2e, pay at 3,400-43 ft., shot with 80 qt., flowed 145 bbl. in 14 hours. Texas' No. 29 Kalkbrenner, SE cor. NE SE SW Section 5-1n-2e, pay at 3,418-50 ft., 3,000 gal. of acid, pumped 160 bbl. Texas' No. 10 Pittenger, NW cor. SE NE NE Section 5-1n-2e, pay at 3,418-71 ft., 5,000 gal. of acid, flowed 2,331 bbl. Texas' No. 14 Small, NW NE NE Section 5-1n-2e, pay at 3,428-63 ft., 5,000 gal. of acid, flowed 492 bbl. in 4½ hours. Texas' No. 16 H. Small, SW NE NE Section 5-1n-2e, pay at 3,438-60 ft., 5,000 gal. of acid, flowed 1,078 bbl. in 9 hours.

Texas' No. 6 W. Carr-C, C N½ NW NW Section 8-1n-2e, McClosky lime pays at 1,943-2,070 ft., at intervals, 4,000 gal. of acid, flowed 840 bbl. Texas' No. 32 Hawthorne, SW NE SE Section 5-1n-2e, Aux Vases sand at 1,802-82 ft., pumped 240 bbl. after an 80-qt. shot. Texas' No. 15 R. Fyke, C S½ NE SW Section 8-1n-2e, McClosky lime at 2,012-2,100 ft., at intervals, 3,000 gal. of acid, pumped 280 bbl. Carraher's No. 1 Fyke, NW SE NW Section 17-1n-2e, shot with 20 qt. in Benoist sand at 1,876-87 ft., pumped 67 bbl. of oil and 35 bbl. of water.

Fayette County

In the Louden field in Fayette County Carter Oil Co.'s No. 3 McCollum, NE NW SW Section 2-8n-3e, was shot with 40 qt. in Cypress sand at 1,491-1,514 ft., and pumped 42 bbl. Carter's No. 2 Holman, NW NE NE Section 10-8n-3e, 40-qt. shot at 1,493-1,508 ft., pumped 252 bbl. Carter's No. 1 Drees, NW SW NE Section 12-8n-3e, 10-qt. shot at 1,481-84 ft., pumped 168 bbl. Carter's No. 2 Kagy-Grames, SE SW SW Section 13-8n-3e, 10-qt. shot at 1,511-40 ft., pumped 198 bbl. Whisenant and others' No. 18 Lilly, SE NW SE Section 16-8n-3e, 30-qt. shot at 1,478-1,510 ft., pumped 75 bbl. Carter's No. 2 Sealock, NE SE NE Section 27-8n-3e, 30-qt. shot at 1,520-30 ft., pumped 90 bbl. Carter's No. 9 Martin McClain, SE NW NW Section 4-7n-3e, 60-qt. and 10-qt. shots in Cypress and Paint Creek sands at 1,447-82 ft. and 1,505-40 ft., pumped 300 bbl. Carter's No. 11 McClain, SE NE NW Section 4-7n-3e, 10-qt. shot at 1,579-82 ft. and 15-qt. shot at 1,518-22 ft., pumped 54 bbl. Carter's No. 4 McClain, NE NE NE Section 5-7n-3e, 10-qt. shot at 1,586-89 ft., and 30-qt. shot at 1,539-49 ft., pumped 666 bbl. Carter's No. 4 E. Owen, NE NW NW Section 17-7n-3e, Cypress sand at 1,435-1,514 ft., Paint Creek at 1,550-64 ft., Bethel at 1,573-83 ft., shot with 10 qt., then acidized with 1,000 gal., and then shot again with 100 qt., pumped 558 bbl.

Ohio Oil Co.'s No. 3 Kistler, SW SW NW Section 31-6n-3e, not shot, pumped 192 bbl. a day from Cypress sand at 1,582-1,609 ft. Texas Co.'s No. 8 Wright, NE NE NW Section 31-6n-3e, not shot, pumped 217 bbl. from Cypress at 1,549-83 ft. Zephyr Drilling Co.'s No. 1 Smith, SE SE SW Section 31-6n-3e, 10-qt. shot at 1,623-33 ft., pumped 60 bbl. of oil and 12 bbl. of water. Texas' No. 1 Black, NE NE SW Section 25-6n-3e, 10 and 20-qt. shots at 1,588-1,608 ft., pumping 20 bbl.

In the St. James pool Ohio Oil Co.'s No. 13 J. Sworm, SE cor. NE Section 36-6n-2e, not shot, pumped 125 bbl. from Cypress at 1,580-1,610 ft.

St. Peter Sand Failure

In Madison County Jessie R. Wilson's No. 1 Danderman, SW SW SW Section 1-5n-6w, dry and abandoned at 1,880 ft. Devonian lime was topped at 1,824 ft. (es-

(Continued on Page 89)

INDIANA

EVANSVILLE, Ind., June 17.—One small oil well, a gas well, and three dry holes were completed in the Indiana fields in the past week. A number of wells on the active drilling list in the report of June 10 were shut down in the course of the week.

Posey County

In Posey County Superior Oil Co.'s No. 26 New Harmony, NW NW SW Section 17-5s-14w, had Ste. Genevieve lime top at 2,958 ft., total depth 3,091 ft. It had no commercial shows at any level, and was abandoned.

La Salle Drilling Co. was rigging up rotary tools for No. 1 Peoples Bank, SE NW SE Section 26-7s-15w. Ray Ryan and others were drilling at 430 ft. in No. 3 Keck, SE cor. NW NW Section 34-3s-14w.

Superior Oil Co.'s No. 3 Mumford, SE NE NE Section 32-3s-13w, was drilling at 2,828 ft. It had top of Ste. Genevieve lime at 2,768 ft. In Cypress sand cored at 2,441-61 ft., 9 ft. of saturated sand was recovered which showed 280 ft. of oil and 30 ft. of salt water on a drill-stem test, and in Aux Vases sand at 2,733-37 ft. had a small showing of oil. Ray Ryan and others' No. 1 Keck, NW SE NW Section 34-3s-14w, Aux Vases sand was topped at 2,785 ft. and 5½-in. casing was set at 2,775 ft. No. 2 Keck, NW NW NW Section 34, was drilling at 2,771 ft. Somers & Egan after having ripped casing at 2,141-51 ft. and recovered water, plugged the hole back from 2,812 ft. to 2,808 ft. and made ready to test Aux Vases sand at 2,792-2,808 ft.

Continental Oil Co.'s No. 2 Kleiderer, SW SW SE Section 26-3s-14w, was shot with 35 qt. at 2,503-17 ft., and pumped 4½ bbl. in 4 hours in which time it pumped off.

Gibson County

In Gibson County Anderson and others were drilling at 800 ft. in No. 1 Boeglin, C E½ SE NW Section 10-4s-10w.

L. B. Jackson's No. 1 Bauer, SW SE SE Section 10-2s-9w, McClosky at 1,627-35 ft., swabbed 40 bbl. in 24 hours. Will acidize with 500 gal. L. B. Jackson's No. 1 Barthold, NW NW SW Section 23-2s-9w, was drilling at 1,385 ft. W. C. McBride, Inc.'s No. 1 Blair, SE SE NW Section 13-2s-12w, Ste. Genevieve lime topped at 2,234 ft., showing of oil at 2,310-20 ft., drilling ahead. A. L. Braden and others' No. 1 Knight, NE cor. SW SW Sec-

(Continued on Page 78)

WESTERN KENTUCKY

OWENSBORO, Ky., June 17.—Six oil wells, two gas wells, and six dry holes were completed in western Kentucky fields in the past week. One of the wells started at 200 bbl. a day from Cunningham sand and another at 196 bbl. a day from Jett sand. Ten new operations were started. Following is the week's record of completions and new operations:

Breckinridge County, Van Zandt district: B. Calvert's No. 2 Harl heirs, abandoned at 192 ft. Pleasant Grove Church district: E. E. Border's No. 1 U. S. Moxley, spudding. Overton School district: Gardner Drilling Co.'s No. 3 M. Tate, 250,000 cu. ft. of gas from Jackson sand, total depth 297½ ft.

Butler County, Silver City district: J. C. Miller, trustee, and others' No. 1 Helsey-Moore, dry hole through Jones sand, total depth 530 ft. C. G. Schmitt and others' No. 1 J. D. Brown, 50 acres, dry hole through Jones sand, total depth 575 ft.

Daviess County, Utica district: J. C. Ellis drilled deeper from Jett sand, 1,172½ ft. to McClosky lime at 1,739-40 ft.; 10-bbl. well, completed. C. E. Daugherty and others' No. 2 C. W. Howard, drilled deeper from Jett sand at 1,178 ft., through Jones sand, total depth 1,241 ft.; estimated a 40-bbl. well. Baldwin Oil Co.'s No. 1 W. D. Iglehart, 13 acres, drilled deeper from Jett sand, 1,146 ft., through Cunningham sand at 1,527-56 ft., total depth 1,556½ ft.; estimated a 200-bbl. well. Whitesville district: White and O. D. Vickers' No. 1

(Continued on Page 74)

OHIO FIELDS

NEWARK, Ohio, June 17.—Nineteen tests were completed in the Ohio fields in the past week. A gas well gaging better than 4,000,000 cu. ft. of gas per day is reported from Muskingum County. Washington County had an oil well in the Keener making 35 bbl. a day naturally. The completions are as follows:

In Athens County, Bern Township, Bern Oil & Gas Co.'s No. 2 A. D. McCune, Section 18, gaged 350,000 cu. ft. of gas from the Brill sand at 1,057 ft. In Carthage Township A. D. Townsend's No. 2 Fred Varner, Section 3, makes 550,000 cu. ft. of gas, open flow, from the salt and Maxton sands, depth 1,220 ft.

In Knox County H. E. Perkins found Clinton sand dry in two tests; Butler Township, No. 1 W. F. Mitchell, Section 5, depth 2,935 ft.; Howard Township, No. 1 Earl Blanchard, Lot 23, third quarter, depth 2,623 ft.

In Lorain County, Penfield Township, Wiser Oil

(Continued on Page 75)

COORDINATED

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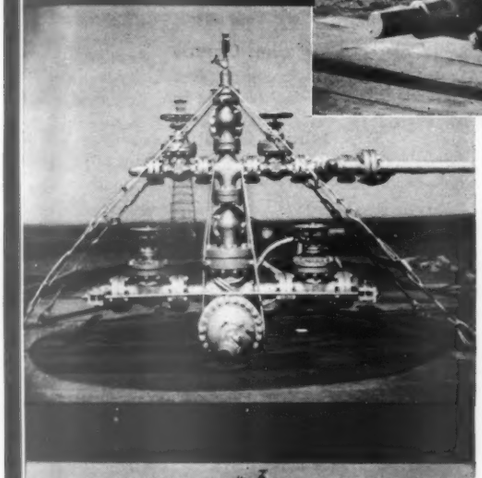

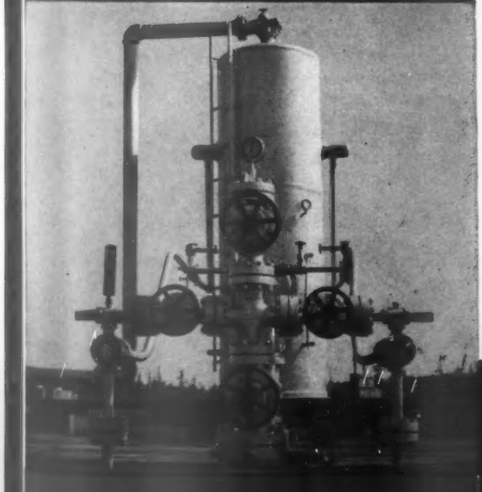

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Southwest Texas District

By
F. L. SINGLETON

New Pools in Jim Wells and Pettus; Find Oil in Gas Field

CORPUS CHRISTI, Tex., June 17.—The opening of another pool along the Frio-Vicksburg trend in Jim Wells County, a Pettus sand discovery in Jim Hogg County, and the apparent discovery of the first oil production in the Stratton gas field, Nueces County were the highlights of development in the Southwest Texas district the past week.

M. M. Miller and Son's No. 1 Gallagher, southeast of Sandia, in the northeast corner of Jim Wells County, perforated casing at 5,187-95 ft., and at 5,198-5,207 ft., and the well was completed with an initial production of 110 bbl. of 34.8-gravity oil per day, flowing through a ⅛-in. choke. Tubing pressure was 620 lb. and casing pressure 1,220 lb. The well is in Block 21, J. H. Gallagher subdivision in the Casa Blanca grant. Protection is held by several independent companies and an early development program is anticipated. The same operators are moving the rig to No. 2 Gallagher, located 467 ft. from the northeast and northwest lines of the SE¼ of Block 21. The field was named "Gallagher" by the Nomenclature Committee of the South Texas Geological Society.

In the same county and about 5 miles south of Bentonville, H. H. Howell's No. 1 San Antonio Joint Stock Land Bank recovered salt water on a production test at 5,649-54 ft., and the perforations were squeezed off preparatory to retesting. An electrical survey and side-wall cores showed favorable indication at 5,646-60 ft., and at 6,662-66 ft., and casing was cemented without making a drill-stem test. Location is in Section 9, Block 14, Lopez grant.

Two important outpost wells were abandoned in the Wade City field, north of production about 2 miles. Henshaw Brothers are rigging up No. 1 L. P. Allen, Lot 3, Block B, W. H. Bode subdivision, while 1½ miles southwest of the field, Hewitt & Dougherty spudded No. 1 O. B. Carver in the I.&G.N. Survey. The well is being drilled on a farmout lease from Sinclair Prairie Oil Co.

In Jim Hogg County, and 1 mile west of the Randado field Achning & Daubert completed No. 1 Wood for an initial roduction of 117 bbl. per day, flowing through a ¼-in. choke, with tubing pressure 285 lb. and casing pressure 450 lb. The well cored oil sand at 2,603-14 ft., the total depth, and the well was completed with 7-in. casing cemented at 2,607 ft. The interesting feature of this well is that it is producing from the lower Pettus sand which is the first production from this formation in that section of South Texas. The field has been named "Manila."

Oil in Stratton Gas Field

Southern Minerals Corp. is believed to have opened an important strike on the east flank of the Stratton gas field by the showing of No. 1 Bertram. The well was drilled to 6,578 ft., and 7-in. casing was cemented on bottom following two drill-stem tests which recovered pipe-line oil. An electrical survey indicated a sand section at 6,373-6,404 ft., and on a 10-minute drill-stem test at 6,373-43 ft., 900 ft. of 42-gravity oil was recovered, and working pressure built up to 72 lb. The hole was then cored ahead, and another sand was logged at 6,563 ft. An attempted drill-stem test of this section failed when the seat of the testing tool did not hold. Five feet of additional sand was cored to 6,578 ft., and a 7-minute drill-stem test at 6,571-78 ft., developed 450 lb. of working pressure, and 100 ft. of muddy oil, (75 per cent was oil and the balance mud and wash water) was recovered.

Stratton has been generally recognized as one of the largest gas reserves in South Texas. The field was opened in 1931, and gas and distillate production has been developed at various horizons from 4,800 to 6,000 ft. The present well is situated about 5,300 ft. east and slightly north of gas production in Section 203, Bishop subdivision.

Humble Oil & Refining Co.'s No. 1 Nueces Bay-State, about 2½ miles northwest of Corpus Christi, and approximately the same distance south of the East White Point field in Nueces Bay, was attracting attention as 43 ft. of gas sand was reported cored at 3,979-4,022 ft. Due to the hazards of testing a well on a submerged lease, no drill-stem test was made, and the well is coring ahead. The sand section is believed to correspond with the regular pay in the Corpus Christi field.

On the southwest side of the East White Point field, San Patricio and Nueces counties, Republic Natural Gas Co. was preparing to test No. 38 Rachal, which logged favorable showings in two new sand sections. After failing to log the regular 5,600-ft. pay, the well was drilled to 6,315 ft., and casing cemented for a production test after an electrical survey showed possible production from two sands, at 5,730-77 ft., and at 6,275-91 ft. Late in the week the casing was perforated at 6,275-80 ft., and the well is testing. No. 38 Rachal is in the M. M. Flores Survey, and is the deepest well drilled in that part of the field.

Location for an interesting wildcat in Nueces County was announced as material was being moved to the Mastin area, 3 miles southwest of the Baldwin field. The well is Fred W. Shield's No. 1 Moore estate in the Delores I. & A. Co. Survey 143.

Bridwell Oil Co.'s No. 1-A W. L. Rogers, a probable pool opener 3 miles southwest of the Fitzsimmons field, Duval County, perforated casing at 4,323-26 ft., and the well flowed dry gas through a 5/32-in. choke, with tubing pressure 1,350 lb. and casing pressure 1,600 lb. The perforations were squeezed off and the well will be retested. Five and one-half-inch casing was cemented on bottom at 4,327 ft., following a 10-minute drill-stem test in the Pettus sand at 4,321-27 ft., which recovered 210 ft. of pipe-line oil.

An attempt by Pure Oil Co. and Sal Vieja Oil Co. to open gas production in Cameron County has apparently failed, as No. 1 Garcia Land & Livestock Co. recovered salt water on two production tests. The well was drilled to 10,307 ft., and drill-stem testing through perforated casing at 8,492-98 ft., and at 6,730-40 ft., recovered salt water with no showing of oil or gas.

In the Balcones fault-line district and located in Bastrop County, W. C. McGlothlin's No. 1 Bell, swabbed a small amount of oil from the Edwards lime at 3,138-54 ft., and the hole has been deepened to a total depth of 3,161 ft., and the well is being swabbed. Five and one-half inch casing was cemented at 3,143 ft., after soft lime with oil saturation in spots was cored at 3,150-54 ft.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio Counties

McCampbell field: Southern Minerals Corp.'s No. 5 Carlock, perforated casing 7,430-40 ft., 75 bbl., distillate ⅝-in. choke. Southern Minerals Corp.'s No. 6 McCampbell, perforated casing 7,130-36 ft., 111 bbl., 3/16-in. choke.

Bastrop County

Carroll field: J. D. Monk's No. 1 Lentz, 2,888 ft., dry and abandoned.

Caldwell County

Salt Flat field: Ellmag Oil Corp.'s No. 5 Dickerson, 2,726 ft., 36 bbl. oil and 684 bbl. salt water, pumping. Wiegand Brothers' No. 11-A Briscoe, 2,710 ft., 41 bbl. oil and 23 bbl. salt water.

Duval County

Cedro Hill field: Humble Oil & Refining Co.'s No. 14 Duval County Ranch Co., 1,450 ft., dry and abandoned. Humble Oil & Refining Co.'s No. 17-F Duval County Ranch Co., 1,437 ft., 14 bbl. fluid in 6 hours, 2 per cent salt water. Magnolia Petroleum Co.'s No. 3 Duval County Ranch Co., sand 1,430-35 ft., 12 bbl. oil, plus 45 per cent salt water, pumping.

Guadalupe County

Elm Creek field: P. G. Rouse's No. 6 Lenz, 980 ft., junked and abandoned.

Jim Wells County

East Alice field: F. Gravis' No. 5 Mull, 4,797 ft., dry and abandoned. South Alfred field: I. K. Howeth's No. 2-B Adams, perforated casing 4,692-96 ft., 136 bbl., ⅛-in. choke. Rodney DeLange's No. 9 McNeil perforated casing 4,922-29 ft., 259 bbl., 3/16-in. choke. Henshaw Brothers' No. 1 Wendt, perforated casing 4,905-10 ft., 168 bbl., 11/64-in. choke. Rodney DeLange's No. 8 McNeil, perforated casing 4,909-17 ft., 105 bbl., jetting. Smith & Mowinkle's No. 2-B Nollkamper, perforated casing 4,807-12 ft., 90 bbl., 7/64-in. choke.

McMullen County

South Callihan field: Morris Drilling Co.'s No. 3 Meier, 1,012 ft., dry and abandoned.

Milam County

Minerva-Rockdale field: W. H. Buchanan's No. 6 Timmerman, 738 ft., dry and abandoned.

Nueces County

Clara Driscoll field: Phillips Petroleum Co.'s No. 2 Sevier, perforated casing 5,846-51 ft., 125 bbl., ⅛-in. choke. Saxet field: E. L. Walling's No. 2 Isensee, perforated casing 5,232-38 ft., 75 bbl., distillate, 9/32-in. choke.

Refugio County

Fagan field: C. L. Norsworthy's No. 1 Holman, perforated casing 1,970-90 ft., gas well. La Rosa field: Coronado Corp.'s No. 2-G Rooke, perforated casing 5,822-36 ft., gas well.

San Patricio County

East White Point field: Sinclair Prairie Oil Co.'s No. 1-B State, perforated casing 5,624-33 ft., 94 bbl., ⅛-in. choke. Sinclair Prairie Oil Co.'s No. 2 State, perforated casing 5,630-36 ft., 131 bbl., ⅛-in. croke. W. R. R. Oil Co.'s No. 3-973 State, perforated casing 5,584-94 ft., 126 bbl., 7/64-in. choke.

Starr County

La Reforma field: Magnolia Petroleum Co.'s No. 3 Guerra, 6,663 ft., dry and abandoned. Rincon field: W. R. Davis' No. 1-A Slick, 2,220 ft., dry and abandoned. W. R. Davis' No. 25-B Slick, perforated casing 4,197-4,212 ft., 290 bbl., ¼-in. choke.

Victoria County

Keeran field: Gulf Oil Corp.'s No. 18 Keeran, perforated casing 4,811-13 ft., 84 bbl. oil plus 36 bbl. salt water, ⅛-in. choke.

Webb County

Volpe field: Harvey & Henderson's No. 6 Benavides, sand 2,453-67½ ft., 77 bbl., pumping. Magnolia Petroleum Co.'s No. 28 Volpe-Benavides, sand 2,453-59 ft., 148 bbl., 5/16-in. choke. Magnolia Petroleum Co.'s No. 29 Volpe-Benavides, 2,457 ft., 65 bbl., pumping. West Cole field: Magnolia Petroleum Co.'s No. 35 Benavides, 2,345 ft., 32 bbl., pumping.

North and East Texas

By
D. H. STORMONT

Ordovician Pool in Prospect In Wilbarger Red River Area

WICHITA FALLS, Tex., June 17.—Prospects of a new field in Wilbarger County, the magnitude of which was not yet determined, were seen during the week at Amerada Petroleum Corp.'s No. 1 Goodpasture. Also holding attention in the North Texas area was the prospect of a 3½-mile northeast extension to the Omohundro field in far western Montague County.

In extreme northern Wilbarger County, about 7 miles south of the Red River, Amerada Petroleum Corp.'s No. 1 Goodpasture, SW cor. Section 35, Block 15, H&T.C. Survey, was last reported drilling deeper below 6,339 ft. A showing of oil was drilled in the Simpson section of upper Ordovician. The Simpson was topped at 6,150 ft. Simpson green shale at 6,230 ft.; Ellenburger lime of lower Ordovician at 6,288 ft. and saturation from 6,309 ft. to 6,333 ft. The 5½-in. casing was cemented at 6,306 ft., but when plug was drilled the well made no flows. Oil was reported to have risen 3,500 ft. in the hole and on a swabbing test of several hours an average of 15 bbl. hourly was recovered. Without acidizing the section, the operators elected to drill deeper toward completion of the 8,000-ft. contract depth. Several shows of oil were found in the lower Pennsylvanian strata and a commercial field discovery is believed possible at several depths.

The wildcat is located several miles down the north flank of the Red River uplift. It is the first wildcat in northern Wilbarger County to find a showing of oil in the Simpson lime section.

Omohundro Area

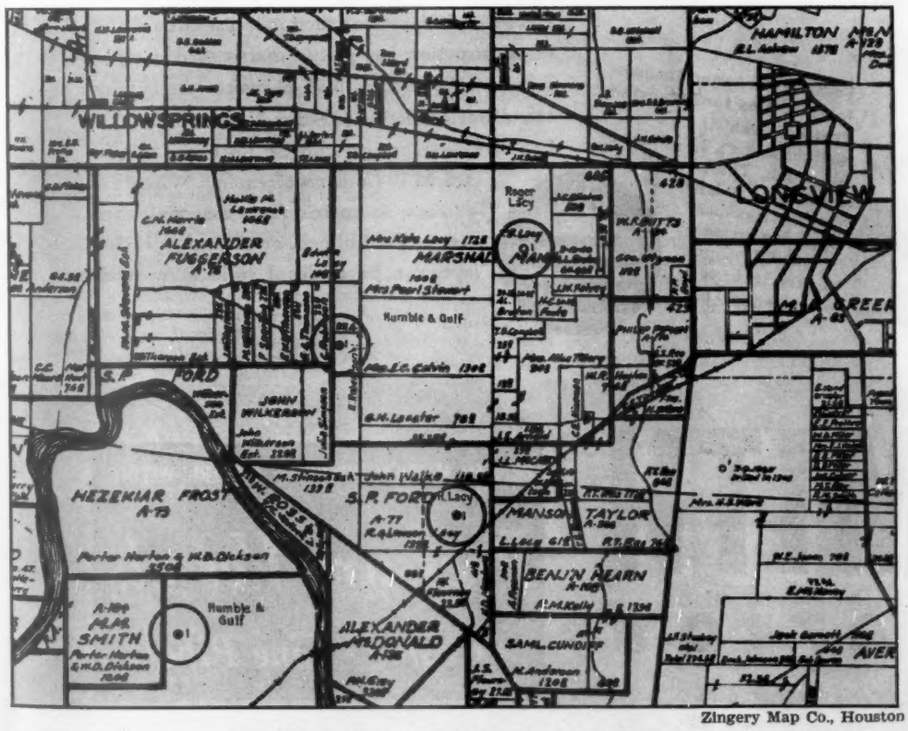
First major extension to any of Montague County's recently discovered deep oil fields appeared as the week closed for the Omohundro field in the western part of the county. About 3½ miles north and east of the two wells now comprising the pool, Sinclair Prairie Oil Co.'s No. 1 Milam, SE cor. Section 4, Abel Beason Survey, Abstract 20, was reported recovering a little oil as the week closed.

Unlike the condition present in the Bonita field several miles to the east, and bearing out the opinion of geologists that the Omohundro structure would prove to be of gigantic proportions, the wildcat found the conglomerate section showing oil at about the same level as in the discovery well 3½ miles southwest. No. 1 Milam drilled and cored broken saturation in conglomerate from 5,627 to 5,683 ft., and cemented casing at bottom. It was perforated at 5,620-28 ft. with 45 shots and about 1 bbl. of oil was recovered on swabbing tests. At last report the crew was preparing to perforate another section 5,667-76 ft., a zone which showed the best oil recovery on drill-stem tests last week.

Meanwhile the third producer was being completed in the field proper. It is Fain-McGaha Oil Corp.'s No. 1 Earl Spring, northwest offset to the discovery well, and in Section 33, Block 4, H.&T.C. Survey. The test topped the conglomerate at 5,668 ft., and drilled saturation from that point to 5,674 ft. A core from 5,674 to 5,690 ft. recovered 6½ ft. of saturation in conglomerate and 8½ ft. of dry lime. This gives the test a total saturation thickness of 12½ ft. The operator was last reported preparing to take another core and then cement casing for completion.

Parker County

A new 4,200-ft. wildcat was reported in Parker County in the southern part of the Fort Worth basin. A block of 4,500 acres has been assembled, but definite location has not been made. J. W. Sorrels and associates are preparing to drill the test near the town of Whitt. The block adjoins the acreage on which Carter & Cunningham are drilling below 560 ft. at a test in the Dr. E. F. Yeager lands, a mile east of Whitt.



Zingery Map Co., Houston

The Willow Springs gas area, which is producing from the deep Trinity level in Gregg County, has been given its third producer and its fourth location under the new development program started by Roger Lacey for the fulfillment of a natural-gas franchise for the city of Longview

NORTH TEXAS COMPLETIONS

Archer County

Bridwell Oil Co.'s No. 2 F. C. Green B, 1,131-49 ft., 97 bbl.; Guy J. Brown's No. 1 W. Ford A, 630-35 ft., 5 bbl.; Cato Oil Co.'s Nos. 14, 15, O. T. Anderson, abandoned locations; Chapman-McFarlin's No. 7 L. F. Wilson D, 4,250-4,356 ft., 1,200 bbl.; Cochran & Cain's No. 4 Dr. J. A. Little B, 1,316-21 ft., 45 bbl.; Cochran & Cain's No. 5 Dr. J. A. Little B, 1,310-16 ft., 84 bbl.; Deep Oil Development Co.'s No. 3 Ray Carson, 4,330-68 ft., 1,800 bbl.; Deep Oil Development Co.'s No. 2 W. T. Finley, 4,270-4,324 ft., 1,380 bbl.; Helmerich & Payne and others' No. 14 L. F. Wilson, 4,355-80 ft., 716 bbl.; King Oil Co.'s No. 7 L. F. Wilson E, 3,812-31 ft., 788 bbl.; Bert L. Ligon and others' No. 7 Dr. J. A. Little B, 541-52 ft., 40 bbl.; W. H. Peckham's No. 2 C. Krebs, 4,355-94 ft., 806 bbl.; Petroleum Production Co.'s No. 2 Fern Johnson and others B, 4,333-52 ft., 1,448 bbl.; L. Sikes' No. 9 O. T. Anderson, 4,026-30 ft., 1,300 bbl.; Texas Co.'s No. 41 L. F. Wilson A, 3,856-86 ft., 1,000 bbl.

Baylor County

Baldwin-Reed's No. 1 Robertson County, 2,994 ft., dry; Paul B. Scott's No. 1 C. H. Farr, 3,144 ft., dry.

Clay County

Roy I. Carter's No. 1 T. H. Harrison, 1,406 ft., dry; E. N. Costley and others' No. 4 W. J. McInnes B, 248-54 ft., 10 bbl.; R. R. Kolp's No. 5 Magnolia, 765-71 ft., 10 bbl.; J. A. Morgan and others' No. 1 Brannon, 395 ft., dry.

Cooke County

Dixon Oil Co.'s No. 4 J. D. Lynn, 1,117-27 ft., 10 bbl.; Lausen & Dixon's No. 3 C. J. Fette, 1,134-49 ft., 35 bbl.; Sun Oil Co.'s No. 4 F. Snuggs, 4,836-4,949 ft., 420 bbl.

Jack County

W. H. McMahon's No. 1 T. R. Ellison, 408 ft., dry; Target Drilling Co.'s No. 2 A. B. Kuykendall, 3,207-38 ft., 460 bbl.

Montague County

Carnation Oil Co.'s No. 1 M.K.&T. fee, 4,348-52 ft., 1,400 bbl.; Rogers & Rogers' No. 1 J. E. A. Burnett B, 5,347-65 ft., 1,350 bbl.; Sunray Oil Co.'s No. 1 Rosa Stambough, 5,195-5,203 ft., 1,625 bbl.

Wichita County

C. L. Apple's No. 1 J. N. George, 1,587 ft., dry; Barrow and others' No. 4 C. Birk A, 4,020-4,127 ft., 644 bbl.; B.C.E. Development Co.'s No. 2 J. N. George, 1,475 ft., dry; Bishop Oil Co.'s No. 2 Waggoner A, 3,772-3,807 ft., 528 bbl.; Continental Oil Co.'s No. 6-B J. L. Waggoner, 3,802-3,960 ft., 488 bbl; C. O. Davis' No. 2 W. Burnett, 3,910-4,134 ft., 497 bbl.; E. C. Oil Co.'s No. 8 A. W. Burnside, 3,985-4,069 ft., 10 bbl.; Fain-McGaha Oil Corp.'s No. 18 E. P. Griffin B, 3,704-3,830 ft., 880 bbl.; Mogren Anderson's No. 11 C. A. Mertins, 1,015 ft., dry; Mogren Anderson's No. 12 C. A. Mertins, 929-31 ft., 10 bbl.; Tide Water and others' No. 19 W. P. Ferguson, 3762-3,836 ft., 792 bbl.; Tide Water and others' No. 25 Charles Pettit, 3,715-3,823 ft., 797 bbl.

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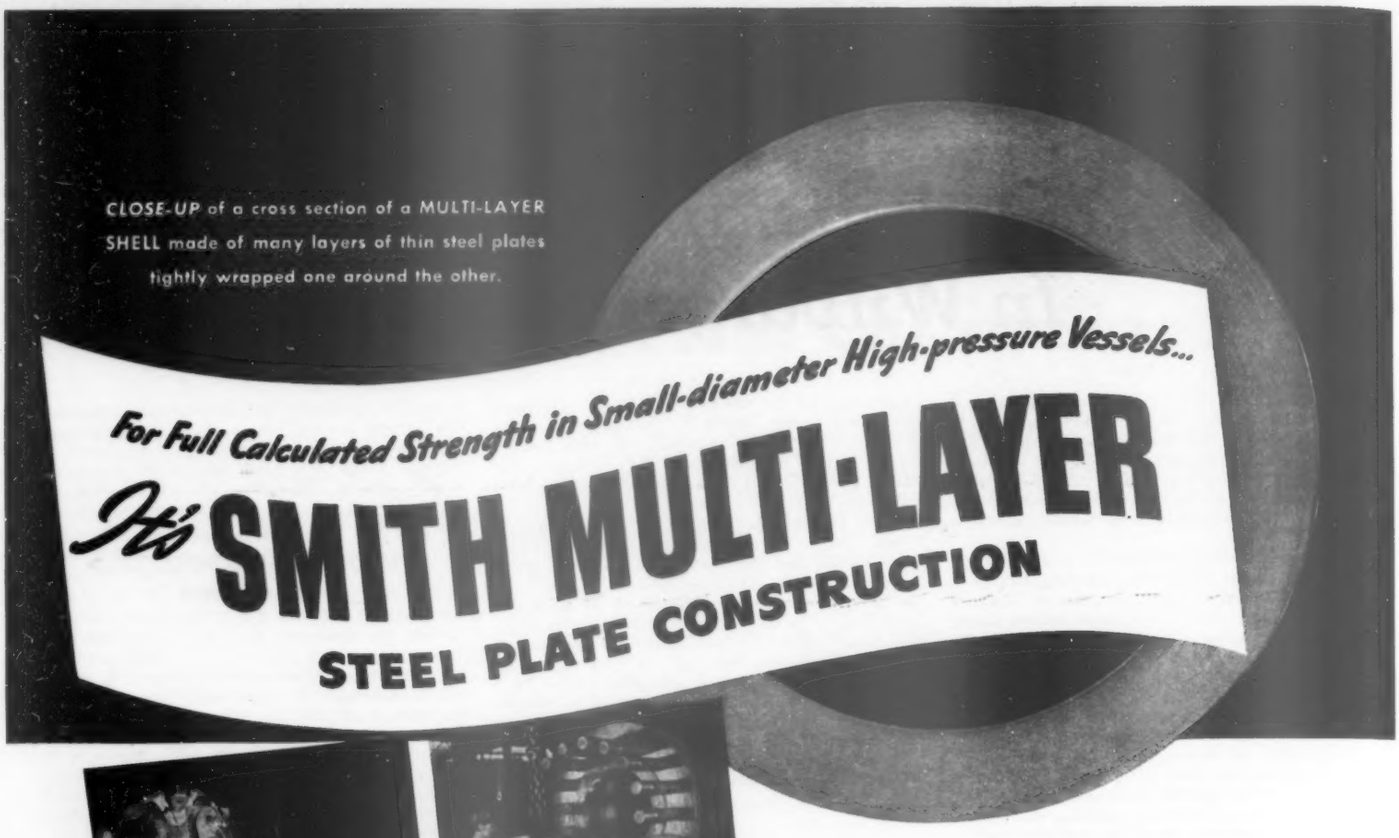
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Texas and Louisiana Gulf

By NEIL WILLIAMS

Prospect in Harris County; Fields Extended; New Pays

HOUSTON, Tex., June 17.—A scheduled production test of a wildcat located in the Ogburn area, Harris County; new sand discoveries, and extensions to proven fields were the featured developments along the Gulf Coast the past week.

Joyce Richardson and others' No. 1 Marks, a wildcat in the Ogburn area, Harris County, was scheduled to be tested at the close of the week. Drilled to 7,248 ft., 5½-in. casing was cemented at 7,128 ft. preparatory to testing several promising sand sections in the Cockfield and lower Yegua formations. Drill-stem testing at intervals from 6,400 to 6,900 ft. recovered gas, distillate and some salt water, and several hundred pounds of working pressure. The well is in the J. G. Ogburn Survey in an area which has been the scene of considerable wildcatting for several years.

General Crude Oil Co. opened production from a new sand on the north flank of the Esperson field, Liberty County, with the completion of No. 20 Davis which flowed 68 bbl. per day through a 3/16-in. choke. The well was drilled to a total depth of 9,734 ft., and was completed through perforated casing at 7,055-7,105 ft. Production is believed from the Vicksburg formation from which several wells are producing on the extreme southeast flank of the dome.

Barnsdall Oil Co. completed No. 1 Stoddard as a large distillate producer to open an important extension to the Wilson Creek field, Matagorda County. This well blew out from a total depth of 10,298 ft. and was completed through the drill stem for an initial production of 440 bbl. of 51-gravity distillate per day, flowing through various chokes. Working pressure was 3,200 lb. Location is in the G. M. B. Cotton Survey, about 1,500 ft. northwest of United North & South Development Co.'s No. 1-A Stoddard, a distillate producer.

Another producer was added to the South China field, Jefferson County, as Titanic Oil Co.'s No. 1-A Broussard flowed 151 bbl. per day through a 7/64-in. choke. Sand was cored at 7,902-09 ft., and production was obtained by perforating casing at 7,904-08 ft.

Stanolind Oil & Gas Co.'s No. 1 Hulen, the discovery well of the Alta Loma field, Galveston County, continues to show an increase in salt water. A late gage showed the well to be flowing 581 bbl. per hour of which 70 per cent was basic sediment and salt water and the remainder oil. Since the well blew out, total oil production as of June 10 was 133,513 bbl.

Harrison & Abercrombie's No. 1 W. S. Dixon, a Tertiary Wilcox test in the Shepherd area, San Jacinto County, was marked off the list as a dry hole at a total depth of 8,820 ft. The Weches was topped at 7,509 ft. and the Wilcox at 8,122 ft. The well ran structurally low and no showings of oil or gas were reported. In the Goodrich area Shell Oil Co.'s No. 1 Coline is drilling in shale below 9,520 ft. with no additional showings reported.

Humble Oil & Refining Co.'s No. 1 Mauritz Brothers, an outpost 1 mile north of the West Ranch field, Jackson County, was dry and abandoned at 6,510 ft. On the west side of the field in the V. Garcia Survey, W. S. Boyle staked location for No. 1 Bennview Development Co. in Block 35. In the Lolita field Barnsdall Oil Co.'s No. 1 Lazarus which extended the field 1½ miles west, flowed 60 bbl. per day on a potential test, flowing through a 5/64-in. choke. Tubing pressure was 825 lb. and casing pressure 1,000 lb.

Louisiana Coast

Along the Louisiana coast and in the Mermentau area, Jefferson Davis Parish, H. M. Naylor and others' No. 1 Acadia Development Co. is reported to be showing for a distillate producer through perforated casing at intervals from 9,700-18 ft. This well was drilled to a total depth of 10,003 ft. and gas and distillate sand were indicated on an electrical survey between 9,115 and 9,810 ft. Previous testing through perforated casing recovered gas, distillate and salt water and the well was recompleted after a number of cement-squeeze jobs had been made. It is located about 2½ miles northeast of the South Jennings field in Section 12-10s-2w.

On the Ritchie prospect, Acadia Parish, Vicent, Welch and E. J. Nicklos were testing No. 1 R. McManus, Section 21-7s-1w. The well was drilled to 3,537 ft. and 6-in. casing was cemented at 3,536 ft. following a drill-stem test at 3,525-35 ft. which recovered two stands of oil-cut mud. Working pressure built up to 650 lb. An electrical survey showed 13 ohms resistivity. The well is about ½ mile northeast of same operators' No. 1 Ruppert, an abandoned well in which oil showings were logged.

In the Lake Boeuf area, La Fourche Parish, Gulf Refining Co. continues to test No. 1-B Bowie Lumber Co., but the results have been disappointing. Casing was perforated at 12,230-40 ft., and the well flowed salt water on a drill-stem test. This was the second of eight tests which the company plans to make in this hole.

An important extension was marked up at the Valentine field, La Fourche Parish, with the completion of T. G. Markley and Mohawk Drilling Co.'s No. 2 Dousson. The well was drilled to 7,019 ft. and completed in sand at 6,998-7,019 ft. with an initial production of 528 bbl. per day, flowing through a 12/64-in. choke. The well is in Section 100-17s-20e, and the completion extends production about 3,000 ft. northeast.

Production from a deeper sand was opened in the Jeanerette field, St. Mary Parish, by Herton Oil Co.'s No. 10 Banta. Sand was cored at 10,373-85 ft. and the well flowed at the estimated rate of 700 bbl. of pipeline oil per day through a ¼-in. choke. Tubing pressure was 1,000 lb. Main production in the field is from sands at 6,600-7,000 ft., although some production had been developed from 9,900 and 10,400-ft. horizons. Location is in Lot 12, Section 40-13s-9e.

Distillate production in the North Elton field, Allen Parish, was defined to the east with the abandonment of W. T. Burton and others' No. 1 Pine farm, at a total depth of 8,020 ft. Southwest of the discovery well Bell Oil Corp. is moving in material for No. 2 Bel estate in Section 22-6s-3w.

The district's most interesting deep wildcat was marked up as a dry hole as Humble Oil & Refining Co. abandoned No. 1 Caldwell Sugars at the Labaideville area, La Fourche Parish. The well was quit at a total depth of 12,600 ft. with no shows of oil or gas reported.

Shell Oil Co., Inc., opened distillate production from a new sand and extended the Chalkley field, Cameron Parish, 1 mile south with the completion of No. 1 Coastal Club which flowed 113 bbl. of distillate on a 24-hour potential test, flowing through a 10/64-in. choke. Tubing pressure was 5,300 lb. The well was drilled to 10,184 ft. and the completion was made with 5½-in. casing cemented at 10,100 ft.

The Neale field, Beauregard Parish, received its second producer as Atlantic Refining Co. completed No. 1 Spiers for an initial production of 420 bbl. per day flowing through a ¼-in. choke. Production is from the Wilcox sand opposite perforated casing at 8,355-70 ft. The well is in Section 26-3s-11w, about ½ mile southwest of the discovery well. The company is drilling below 6,000 ft. in No. 1 Musser-Davis, and the rig from the completed well is being moved in for No. 1 Rice Land & Lumber Co. in Section 27-3s-11w.

Texas Co. announced location for another outpost test in the Paradis field, St. Charles Parish. The well is No. 5 L. L. and E. Paradis, Section 6-14s-20e, several hundred feet north of the discovery well.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Manvel field: Texas Co.'s No. 35 Houston Oil Field Association, sand 5,560-70 ft., 527 bbl., ¼-in. choke. West Columbia field: Hogg Oil Co.'s No. 5 Hogg-Hamman, 5,132 ft., dry and abandoned.

Chambers County

Cedar Point field: Standard Oil Co. of Texas' No. 53-118 State, perforated casing 5,980-98 ft., 144 bbl., ⅛-in. choke.

Fort Bend County

Thompson field: Gulf Oil Corp.'s No. 1 Scanlan, perforated casing 7,891-7,900 ft., 447 bbl., 3/16-in. choke. Quintana Petroleum Corp.'s No. 14 Wolters, perforated casing 5,380-86 ft., 615 bbl., ¼-in. choke. Gulf Oil Corp.'s No. 12 Davis, sand 4,295-4,315 ft., 142 bbl., ⅛-in. choke.

Galveston County

Caplen field: Sun Oil Co.'s No. 5 Zinn & Forman, perforated casing 7,148-64 ft., 194 bbl., ⅛-in. choke. High Island field: Stanolind Oil & Gas Co.'s No. 20-B Smith, perforated casing 5,914-24 ft., 359 bbl., 3/16-in. choke. League City field: Phillips Petroleum Co.'s No. 1 Parr, 9.338 ft., dry and abandoned.

Harris County

Clear Lake field: Humble Oil & Refining Co.'s No. 8 Hutcheson, sand 5,838-39 ft., 112 bbl., ⅛-in. choke. Fairbanks field: Stanolind Oil & Gas Co.'s No. 9 Jahnke, perforated casing 6,828-36 ft., 145 bbl., ⅛-in. choke. Friendswood field: Humble Oil & Refining Co.'s No. 34 Beamer, sand 5,945-6,034 ft., 518 bbl., ¼-in. choke.

Jackson County

West Ranch field: Lonnie Glasscock's No. 3-B Drummond, perforated casing 5,750-72 ft., 498 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 75-A West, perforated casing 5,763-67 ft., 435 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 78 West, perforated casing 5,755-61 ft., 582 bbl., ⅛-in. choke. Magnolia Petroleum Co.'s No. 2 State, perforated casing 5,102-08 ft., 563 bbl., ¼-in. choke. Phillips Petroleum Co.'s No. 1 Toney, perforated casing 5,720-32 ft., 685 bbl., ¼-in. choke. Stanolind Oil & Gas Co.'s No. 7 L. Ranch Co., sand 5,724-39 ft., 629 bbl., ¼-in. choke.

Jefferson County

South China field: Titanic Oil Co.'s No. 1-A Broussard, perforated casing 7,904-08 ft., 151 bbl., 7/64-in. choke.

Liberty County

Esperson field: General Crude Oil Co.'s No. 20 Davis, perforated casing 7,055-7,105 ft., 68 bbl., 3/16-in. choke. Hardin field: Humble Oil & Refining Co.'s No. 1 Cessna, 7,687 ft., 360 bbl., ¼-in. choke.

Polk County

Segno field: Humble Oil & Refining Co.'s No. 23-B Kirby Lumber Co., sand 8,070-80 ft., 317 bbl., ¼-in. choke.

Tyler County

Joe's Lake field: Republic Production Co.'s No. 36 fee, sand 7,662-7,700 ft., 477 bbl., ¼-in. choke.

Wharton County

Pickett Ridge field: Texas Co.'s No. 37-A Pierce estate, sand 4,780-93 ft., 122 bbl., ⅛-in. choke. V. B. Von Roeder's No. 2 Wilbeck, sand 4,770-88 ft., 68 bbl., 6/64-in. choke. Withers field: Texas Co.'s No. 24 Broussard, perforated casing 5,526-33 ft., 100 bbl., ⅛-in. choke. Texas Co.'s No. 45-B Pierce, sand 5,542-45 ft., 118 bbl., ⅛-in. choke.

Michigan Field Report

1,400-Bbl. Well in Walker Pool Best of 9 Completions

By

OTTO C. PRESSPRICH

SAGINAW, Mich., June 17.—Acidizing difficulties brought delay in completion of Teater & Markle's No. 1 Johnston discovery well in Section 8 of Bloomfield Township, Huron County. On several occasions oil rose in the hole about 600 ft., indicating it would produce about 30 bbl. a day naturally, but the pay formation did not "take" the acid under heavy pressure on the first attempt, and investigation was under way to determine whether the situation may have resulted from rust scale from pipe clogging the rock or whether it was due to unusual hardness of the Monroe formation. The well owners, Charles W. Teater of Saginaw and Wallace Markle of Bad Axe, also were considering the advisability of deepening beyond its present 2,652 ft. In some central and northern Michigan wells two Monroe pay zones are found.

Opening of a new production area in southwestern Michigan also developed last week in Overisel Township, Allegan County, west and north of the Overisel pool. The test, H. C. Nelson's No. 1 F. Peters, SE SE NE Section 8, was believed to be good for about 350 bbl. a day, naturally.

Good Well in Walker Pool

Only because of a Walker Township, Kent County, completion which rated 1,400 bbl. a day, naturally, as the biggest well in Michigan in several weeks, initial potential production in the state last week was increased by 2,150 bbl. Results in established fields were poor, on the average, the report listing 23 completions: Nine were oil wells, 13 wells were abandoned as dry, and 1 new gas well was recorded. Three of the oil wells were in Kent County, three in Ottawa, one in Isabella, one in Tuscola and one in Allegan. The gas well was a Clare County development.

MICHIGAN CRUDE PRODUCTION IN MAY

	Wells	Daily runs
Porter-Yost	341	4,898
Greendale-Chippewa	182	1,227
Geneva-Midland	8	13
Edenville-Midland	26	269
Sherman-Isabella	59	1,441
Wise-Isabella	38	3,270
Vernon-Leaton-Denver	....	697
Freeman-Redding	146	11,867
Grant-Clare	3	....
Beaverton-Gladwin	20	120
Bentley-Gladwin	25	275
Buckeye-Gladwin	308	3,034
Secord-Gladwin	2	9
Ogemaw	237	1,451
Adams-Arenac	14	116
Clayton-Arenac	51	1,350
Tuscola	6	....
Saginaw-Bay area	57	105
Birch Run	25	29
Dundee-Monroe	9	351
Montcalm	35	309
Allegan (all pools)	471	7,647
Holland-Ottawa	1	27
Zeeland-Ottawa	2	10
Muskegon	62	74
Walker-Wyoming-Tallmadge	389	13,193
Bloomingdale-Columbia	276	4,682
Bangor-Van Buren	12	226
Total	2,887	50,690

Over the week end the opinion was expressed by F. R. Frye, state Conservation Department engineer, that proration in four of the five production-limited oil pools in Michigan will be abolished by the end of summer. Mr. Frye reported at present 56.6 per cent of Michigan production comes from prorated fields which, he said, are averaging 34,478 bbl. a day, compared with 24,459 bbl. in fields not under proration.

The move, Mr. Frye explained, will likely result from a decline in the production of the fields to a point where nothing would be gained by continuing the limitation. He suggested that proration be ended in the Walker, New Salem, Freeman and South Overisel fields, but that it be retained in the 20-acre drilling unit pool in Redding. He added that the move does not mean the fields are "played out," and declared the value of proration has been demonstrated by the fact that production from the New Salem field had been one-third greater than Old Salem, both in Allegan County. Old Salem was exploited without proration.

Gas pressure drop in the New Salem field, he asserted, in 6 months has been "almost negligible" and that indications point to a long productive life for the field, although incursion of water has shown a tendency to increase somewhat in recent weeks. In the South Overisel field of Allegan County, Mr. Frye said, the oil-gas ratio is low, but water does not appear to be an immediate danger.

The 10-acre drilling unit section of Clare County's Freeman field has shown an increase in production of nearly 2,000 bbl. daily in 3 months, Mr. Frye said, as there remains much gas in solution with the oil in the reservoir. He said there has been no rise in the amount of water since April 1 and pressure continues around 1,600 lb.

In the Walker field of Kent County, he continued, a point has been reached where pumping is necessary almost 24 hours a day to meet the 100-bbl. proration limit. Water presence also has increased materially and reservoir pressures have dropper considerable.

Central Michigan

Of the few Central Michigan basin developments, Cities Service Oil Co.'s No. 1 Ernest in Section 28 of Wise Township, Isabella County, and Steinhaus' No. 1 Boyce Farming Co., in Section 23 of Tuscola's Wisner Township, rated moderate production. In Jasper Township, Midland County, Pure Oil Co.'s No. 21 Bond-Root showed considerable oil in the hole and was to be acidized. The well is a southeast offset to a 200-bbl. well completed more than 3 years ago. In Gladwin County Sun Oil Co. planned to reacidize No. 1 Cameron wildcat, Section 10 of Grout Township. Casing was being recemented after acid was lost, with the result that the natural estimated 6 bbl. a day was increased only to 22. Sun abandoned its deep test, No. A-1 State-Franklin in Section 4 of Franklin Township, Clare County, at 5,028 ft. and several other deep tests in North Michigan continue to show little promise.

Of the 23 new oil and gas permits approved by the Conservation Department, all but four were for tests in southwestern counties; Allegan County leading with six, of which four are for Heath Township. It Ottawa's Tallmadge Township four are listed, and a wildcat is scheduled for drilling in Blendon. Another tests is set for the city of Holland. Calhoun and Oceana were listed for wildcats, Monroe and Van Buren listed two, Tuscola one of the few Central Michigan tests, two others being for Clare, and one, a Grant Township wildcat. Last week's completions report follows:

Allegan County

Cheshire Township (1n-14w)—Huffman Drilling Co.'s No. 1 Thompson, SW SW NE Section 1, was abandoned as dry at 1,411 ft.

Dorr Township (4n-12w)—Seaboard Oil Co. of Delaware abandoned No. 1 A. N. Gietzer, NE SE SW Section 12, dry at 1,888 ft.

Heath Township (3n-14w)—Clapsaddle & Harris' No. 1 Smith, SW NW NW Section 36, was dry and abandoned at 1,566 ft.

Hopkins Township (3n-12w)—Bell & Marks, inc., abandoned No. 1 Spahn, NE SW SW Section 9, as dry at 1,784 ft.

Salem Township (4n-13w)—The only oil well completed in Allegan County was Gordon Oil Co. and Basin Oil Co.'s No. 4 George Weber, SW NE NW Section 10, drilled to a depth of 1,620 ft. and producing initially 25 bbl. a day after it was acid treated. Muskegon Oil Corp.'s No. 2 William A. Miller, SW NE NE Section 10, was abandoned as a dry hole, drilled to 1,666 ft. Union Oil Co.'s No. 1 Frujinick, SE NE NE Section 26, was a failure at 1,752 ft.

Clare County

Franklin Township (20n-3w)—Sun Oil Co.'s No. A-1 State-Franklin, deep test, a dry hole at 5,028 ft. The test was in C S½ SW SW Section 4.

Lincoln Township (18n-5w)—American Production Co.'s No. 3 Ann Arbor Railroad Co., C SE Section 21, was completed as a gas producer at 1,551 ft. Production was at a daily rate of 549,000 cu. ft.

Winterfield Township (20n-6w)—Taggert Brothers, Inc.'s No. 27 H. Brown, C N½ NW NW Section 8, a gas test, was a failure, abandoned at 1,612 ft.

Isabella County

Wise Township (16n-3w)—Cities Service Oil Co.'s No. 1 Frank Ernest, SE SE NW Section 28, after acid treated, produced initially at the rate of 131 bbl. daily from 3,706 ft.

Kent County

Walker Township (7n-12w)—Best well in weeks in Michigan was Smith Petroleum Co.'s No. 3 John Livingston, SW NE SE Section 32, initial production was 1,400 bbl. a day, naturally, at a depth of 1,837 ft. James E. Flanigan completed No. 1 G. McShane and others, NW NW SW Section 33, at 1,857 ft., getting initial after-acid production of 112 bbl. a day.

Wyoming Township (6n-12w)—Michigan Devonian Petroleum Co.'s No. 1 Bert Jelsma, C W½ W½ SW Section 14, was good for 40 bbl. a day after being acid treated, total depth being 1,904 ft.

Montcalm County

Richland Township (12n-5w)—Belvidere Oil Co.'s No. 1 Skidmore, NW SW SW Section 15, was an unsuccessful test for natural gas, drilling being stopped at a depth of 1,236 ft.

Muskegon County

Fruitport Township (9n-16w)—Robert C. Lentz, trustee, abandoned No. 1 Fred J. Wegg, NW SW SE Section 35, as a dry hole at 1,807 ft.

Ottawa County

Tallmadge Township (7n-13w)—Forty barrels a day was the initial after-acid yield of Gulf Refining Co.'s No. 5 A. E. Rapp, NW NE SW Section 23, completed at a depth of 1,877 ft. In C N½ NW NE Section 26, John C. Newell's No. 1 John S. Masterson, completed at 1,869 ft., was good for 100 bbl. a day after acid treatment, and Edward B. Strom, trustee's No. 2 Nichol, SW NW NE Section 23, produced 250 bbl. a day at 1,867 ft. after acidization.

Wright Township (8n-13w)—Daily Crude Oil Co.'s No. 1 A. Allen, NW NW NE Section 31, was abandoned dry at 1,992 ft.

St. Joseph County

Constantine Township (7s-12w)—Tom McDaniel's No. 1 J. T. Ruchoft, SW SW SW Section 10, was dry and abandoned at 872 ft.

Tuscola County

Wisner Township (14n-7e)—Milton Steinhaus' No. B-1 Boyce Farming Co., SE NE SE Section 23, was good for 50 bbl. a day, naturally, at 3,441 ft.

Van Buren County

Bangor Township (2s-16w)—John H. McLean's No. 1 Ellen Pierce, SW NW SE Section 21, was abandoned dry at 1,025 ft.

New Pool in Andrews County; Start Test to Link Two Pools

By D. H. STORMONT

MIDLAND, Tex., June 17.—Southern Andrews County's new field discovery is still swabbing and testing and two outposts, one an offset to the north and the other a 2-mile south outpost, continued drilling, both below 2,700 ft.

Holding the attention in the north basin area of West Texas was the long-promised link test for the Slaughter and Duggan fields of Hockley and Cochran counties. With a link test for the southern part of the area between the two large fields nearing the crucial stage, another link operation has been staked about 2½ miles to the north. Should either or both of the tests find commercial production, the pools will be almost definitely joined for a field fully 3,000 acres larger than the 50,000-acre Wasson field in Yoakum and Gaines counties.

The new field discovery in southern Andrews County is Atlantic Refining Co. and Helmerich & Payne, Inc.'s No. 1 University, Section 11, Block 11, University Lands, about 6 miles north of the Ector County line and northwest of the Emma field. The well is being deepened from 4,425 ft., where it flowed 10 bbl. hourly on a 12-hour test, after a 3-stage acid treatment with 1,000, 5,000 and 8,000 gal. It was last reported below 4,475 ft., with the operators preparing to shoot the prospective section.

A north offset, Atlantic Refining Co.'s No. 1-2 University, Section 2, Block 11, University Lands Survey, was last reported drilling below 3,400 ft. Atlantic's No. 1-23 University, Section 23, Block 11, University Lands Survey, a wildcat 2 miles south of the prospective field opener, was last reported drilling ahead below 2,600 ft.

Hockley-Cochran Area

Strongly indicating the linking of Hockley County's Slaughter field with Cochran County's Duggan area, two operations are being closely watched between these already large fields. Approximately 2 miles southwest of the western outpost to the Slaughter field, and about 4 miles southeast of the eastern edge of production in the Duggan field, Texas Co.'s No. 1-F Mallett, Labor 25, League 51, Scurry School Lands Survey, about ½ mile from the county line, was last reported drilling ahead below 4,335 ft., and nearing the productive zone.

As the week closed Magnolia Petroleum Co. staked the critical test for the entire area with its No. 1-B Mallett, 1,450 ft. from the north and 1,340 ft. from the east lines of Labor 13, League 50, Scurry County School Lands Survey, approximately 1½ miles east of its No. 1 Mallett, east-edge test for the Duggan field. Magnolia's new location falls about 4 miles north of Texas Co.'s link operation in Labor 21 and approximately 3 miles northwest of the esaternmost producer in the Slaughter field.

Ward County

Indicating for several weeks a field discovery 2¼ miles west of the south end of the North Ward field in Ward County, Atlantic Refining Co.'s No. 1 Wickett-University, Section 12, Block 16, University Lands Survey, reported a flow of 430 bbl. of water and 52 bbl. of oil as the week closed. The flow was made over a 10-hour period, and through ½-in. choke on tubing The operators expressed belief that the last acid treatment had eaten around the cement plug and that water was coming in from below casing seat. The plug was set at 2,911 ft., plugged back from 2,920 ft. where it had water.

Stonewall County

Shell Oil Co., Inc., which has been drilling and testing for several months at a wildcat in Stonewall County, gave the county a new deep wildcat operation as the week closed. It will be No. 1 J. D. Patterson, 330 ft. from the south and west lines of NW Section 393, Block D., H.&T.C. Survey. It is on a large block near Peacock on the west side of the county. It is contracted to the Ordovician below 6,000 ft.

Shell's No. 1 Annie Smith, Section 143, Block 1, H.&T.C. Survey, indicated field opener of several weeks ago, is being deepened below 6,028 ft., where it showed for 280 bbl. daily through open casing. It was last reported attempting to free stuck tools at 6,060 ft.

WEST TEXAS FIELD COMPLETIONS

(24-hour gages)

Crane County

In the Dunes field Great Western Production & Refining Co.'s No. 5-A University, 3,128-3,302 ft., 489 bbl.

In the Waddell field Gulf Oil Corp.'s No. 30 Waddell, 3,400-93 ft., 3,591 bbl.

In the Sand Hills field, Humble Oil & Refining Co.'s No. 1-D Tubb, 4,300-4,427 ft., 2,391 bbl.

Crockett County

In the Crockett field, Frank B. Black's No. 2-C Powell, 2,600-12 ft., 888 bbl.

Ector County

In the Johnson field A. & M. Oil Co.'s No. 6 Johnson, 4,171-4,288 ft., 381 bbl. Atlantic Refining Co.'s No. 1-G Johnson, 4,070-4,195 ft., 625 bbl. Indian Territory Illuminating Oil Co.'s No. 1-D Johnson, 4,015-4,151 ft., 1,616 bbl. Ohio Oil Co.'s No. 1 Johnson, 4,065-4,153 ft., 394 bbl. Schermerhorn Oil Co.'s No. 10 Johnson, 4,065-4,195 ft., 746 bbl. Sunray Oil Co.'s No. 2-F Johnson, 4,091-4,154 ft., 486 bbl.

In the North Cowden field, Barnsdall Oil Co.'s No. 9 Smith, 4,062-4,212 ft., 1,273 bbl.

In the Jordan field, Cities Service Oil Co.'s No. 3-C University, 3,527-61 ft., 1,037 bbl.

In the Goldsmith field Gulf Oil Corp.'s No. 283 Goldsmith, 4,184-4,247 ft., 1,111 bbl. Gulf Oil Corp.'s No. 284 Goldsmith, 4,198-4,241 ft., 1,595 bbl. Gulf Oil Corp.'s No. 285 Goldsmith, 4,125-75 ft., 495 bbl. Phillips-Pure's No. 89 C. Cowden, 4,102-57 ft., 1,248 bbl.

In the Foster field Stanolind Oil & Gas Co.'s No. 41-B Cowden, 4,045-4,200 ft., 220 bbl. Stanolind Oil & Gas Co.'s No. 45 Witcher, 3,895-4,132 ft., 1,794 bbl.

Hockley County

In the Slaughter field Western States Gasoline Corp.'s No. 2 Frazier, 4,964-5,016 ft., 1,458 bbl.

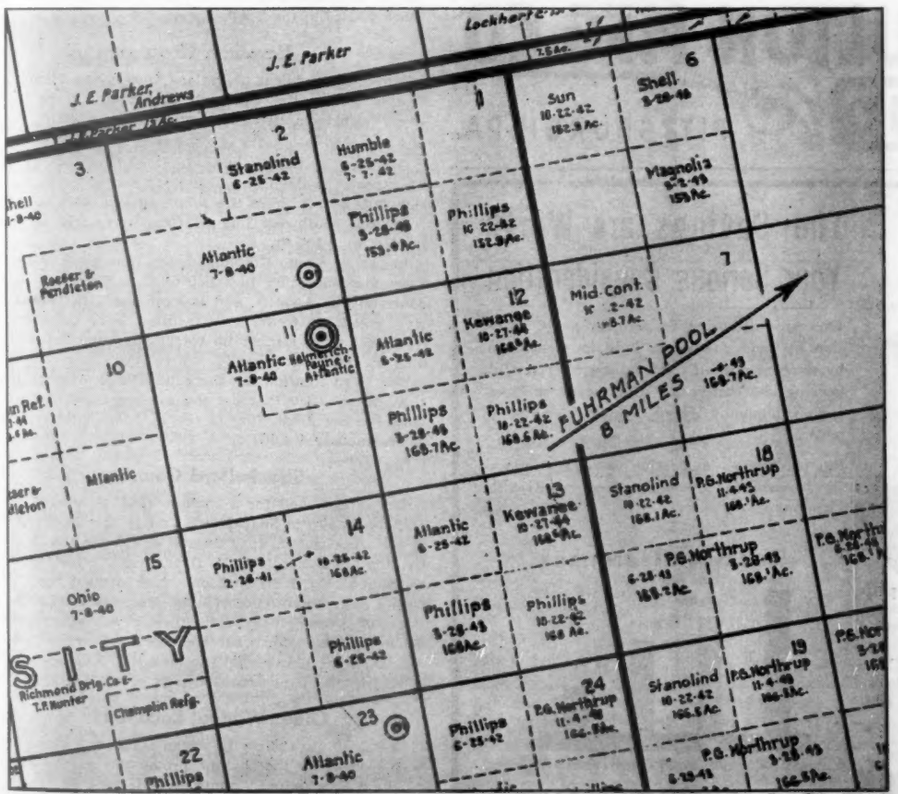
Pecos County

In the White & Baker field Cardinal Oil Co.'s No. 4-A-45 White & Baker, 1664-87 ft., 80 bbl. L. W. Fritz's No. 4 Redmond-Iowa Royalty Trust, 1,525-1,635 ft., 210 bbl.

Gaines County

In the Seminole field Amerada Petroleum Corp.'s No. 3 Riley, 5,090-5,260 ft., 860 bbl. Atlantic Refining Co.'s No. 5-C Riley, 5,134-5,321 ft., 905 bbl. Harry W. Bass' No. 1 W. E. Austin, 5,085-5,249 ft., 571 bbl. Magnolia Petroleum Co.'s No. 3-219 H.&J., 5,185-5,261 ft., 735 bbl. Magnolia Petroleum Co.'s No. 1-221 H.&J., 5,130-5,243 ft., 886 bbl.

Magnolia Petroleum Co.'s No 5-265 H.&J., 5,115-



Southwest Map Co., Fort Worth

Southern Andrews County is being given a new oil field by Atlantic Refining Co. and Helmerich & Payne, Inc.'s No. 1 University, about 8 miles southwest of the Fuhrman field. A north offset and a 2-mile south outpost are active operations

5,306 ft., 724 bbl. Magnolia Petroleum Co.'s No. 6-265 H.&J., 5,080-5,292 ft., 638 bbl.

In the Wasson field Continental Oil Co. and Amon G. Carter's No. 5-44 Langdon, 4,970-5,050 ft., 1,126 bbl.

In the Cedar Lake field Stanolind Oil & Gas Co.'s No. 2 Rayner, 4,650-4,800 ft., 764 bbl.

Scurry County

In the Sharon field, Coffield & Guthrie, Inc.'s No. 4 First National Bank, 2,280-2,440 ft., 125 bbl. Mudge Oil Co.'s No. 2 Holcomb, 2,236-2,472 ft., 105 bbl.

Ward County

In the Hutchins field Gulf Oil Corp.'s No. 141 Hutchins, 2,395-2,545 ft., 8,300,000 cu. ft. gas. Gulf Oil Corp.'s No. 142 Hutchins, 2,679-2,727 ft., 211 bbl.

In the Estes field Gulf Oil Corp.'s No. 130 O'Brien, 2,435-2,518 ft., 22,000,000 cu. ft. gas. Gulf Oil Corp.'s No. 135 O'Brien, dry and abandoned at total depth of 3,166 ft.

In the Pecos Valley field Pitman & Reese's No. 1 Texas Cotton Industries, 1,920-51, 66 bbl., old well drilled deeper. Pitman & Reese's No. 2 Texas Cotton Industries, 1,875-1,978 ft., 15½ bbl.

In the Sealy field Mid-Continent Petroleum Corp.'s No. 7 Sealy, 2,984-86 ft., 2,023 bbl.

In the North Ward field S. W. Richardson's No. 3-B University, 2,515-2,735 ft., 400 bbl. Texas Co.'s No. 3-E University, 2,646-92 ft., 1,635 bbl.

Yoakum County

In the Wasson field Aloco Oil Co.'s No. 3 Futch, 5,060-5,270 ft., 280 bbl. Aloco Oil Co.'s No. 3-B Annie Miller, 4,978-5,209 ft., 970 bbl. Aloco Oil Co.'s No. 3 Walker, 4,875-5,271 ft., 1,048 bbl. Aloco Oil Co.'s No. 8-B Willard, 4,970-5,245 ft., 637 bbl. Anderson-Prichard Oil Corp.'s No. 6-805 Spearman-Willard, 4,850-5,157 ft., 1,705 bbl. Argo Oil Corp.'s No. 4-C Comer, 4,885-5,175 ft., 1,817 bbl. Carter & Continental's No. 5 Willard, 4,895-5,082 ft., 1,419 bbl. Continental Oil Co.'s No. 5-868 Kendrick, 5,010-5,110 ft., 1,010 bbl. Carl B. King Drilling Co.'s No. 2 Brank, 4,865-5,042 ft., 667 bbl. Magnolia Petroleum Co.'s No. 16 Mahoney, 4,950-5,210 ft., 909 bbl. Plymouth Oil Co.'s No. 4-B Bennett, 5,035-5,245 ft., 363 bbl. Shell Oil Co., Inc.'s No. 14-A Baumgart, 4,885-5,190 ft., 1,480 bbl. Shell Oil Co., Inc.'s No. 9-E Baumgart, 4,880-5,180 ft., 1,765 bbl. Texas Pacific Coal & Oil Co.'s No. 2 Hearn, 5,150-5,247 ft., 1,181 bbl.

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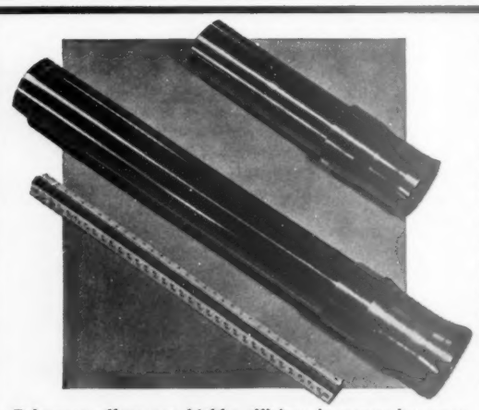

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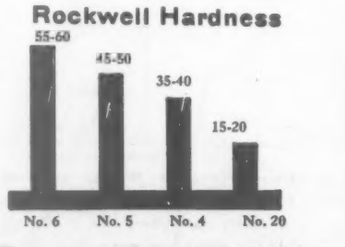

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WEST CENTRAL TEXAS

FORT WORTH, Tex., June 17.—Field extension activities and new wildcat locations featured the week's developments in West Central Texas. A total of eight new wildcat tests were located in five different counties. The wildcat locations included two in Stephens County, one each in Palo Pinto, Brown and Callahan counties and three in Hamilton County.

In the Fagg field in Stephens County, discovered last year by George E. Fagg's No. 1 Richardson, NW cor. SE Section 5, Block 3, S.P. Survey, a wildcat outpost is indicating a 16-mile northeast spread and the second well for the field. It is Jones Brothers Drilling Co.'s No. 1 Corbett, NE cor. SE Section 3, Block 3, S.P. Survey. The well is testing, after acid, at a total depth of 4,018 ft. A show of gas was encountered at 3,999-4,001 ft. and at a total depth of 4,018 ft. the well gaged 728,000 cu. ft. gas daily. The section was acidized and a little oil started showing. A commercial producer is yet undetermined. The discovery well made 232 bbl. daily from the lime drilled from 4,028-30 ft.

About 1½ miles northwest of the No. 1 Corbett, Panhandle Refining Co.'s No. 1 Magers, S½ SE Section 1, Block 3, S.P. Survey, 2 miles north of the Fagg discovery well, is being prepared for a third shot after the first two failed to show any increase in the well's output. It encountered water in a sandy lime from 4,035-37 ft. and was plugged back to 3,999 ft. for testing. The prospective pay horizon was encountered slightly higher in this test than in the discovery well, however, the Caddo lime was found to have graded into a sandy lime with only slight porosity.

New deep operations for Stephens County will both seek the Caddo lime production. J. F. Schwind, Jr., has staked his No. 1 Henry Compton, SW Section 34, Block 7, T.&P. Survey, 4 miles south of the four-well Loving field and 2 miles northeast of the two-well Rich field.

A half-mile southwest of the Schwind location, D. D. McCall has located his No. 1 Compton, NE Section 40, Block 7, also in the T.&P. Survey.

Hamilton County

Three new wildcat operations were given Hamilton County during the week, all of which will be relatively deep tests, two being projected to 4,500 ft., and one to 4,000 ft.

Gunther & Smith have located their No. 1 C. Thompson, in the Rhody Kennedy Survey. The location falls 467 ft. from the southeast line and 4,533 ft. from the southwest line of the survey. It is contracted to 4,500 ft.

In the S. Agapo Gothan Survey Hensley & Watson have made location for their No. 1 Manning. It is contracted to 4,500 ft. and is located 467 ft. from the west and 2,500 ft. from the south line of the survey. Operators were rigging up rotary for immediate spudding as the week closed.

The third location for the county is B. Waters' No. 1 A. Oates, 3,350 ft. from the southeast and 8,450 ft. from the northeast lines of the F. Hughes Survey. It is contracted to 4,000 ft.

Shackelford County

The second well for a shallow field discovered several weeks ago in Shackelford County was in prospect as the week closed. It is Ungren & Frazier and Beams Drilling Co.'s No. 1 J. F. Dyer, north offset to the companies' No. 1 N. Jackson which opened the field with a daily potential of 190 bbl. from the 900-ft. sand. The No. 1 Dyer drilled sand from 920-28 ft. and was being completed for what operators believed a better well than the discovery. The area lies 10 miles south of Baird and in the southern part of the county.

Other Wildcat Locations

In Palo Pinto County Georgian Oil Corp., which has been developing the shallow production on the Blach ranch in Shackelford County for the past 10 months, is moving rig to the northwestern part of the county for a 2,500 ft. wildcat test. It will be No. 1 Weldon, located 1,765 ft. northwest and 233 ft. south of the

(Continued on Page 90)

Kansas Developments

By
DAL DALRYMPLE

Start Several New Wildcats; Find New Pool in McPherson

Field activity in Kansas was extended over considerable new territory the past week as operators started some 15 wildcats and extension tests, as well as a large number of new operations along the edges and in proven fields. A small pool opener was completed in eastern McPherson County. Several big producing wells were completed, including an 8,000-bbl. flowing well in the Hittle field, Cowley County.

The new wildcats included: Sage, Murfin & Markey's No. 1 Carlson, C W½ SW SW Section 21-30-3e, near the old Udall area, Cowley County, moving in material; Tree Oil Co.'s No. 1 Richards, CNL NW SW Section 31-10-18w, near the Zurich pool, Rooks County, location; Westgate-Greenland Oil Co.'s No. 1 Lassen, C S½ SW NE Section 24-17-2w, about ¾ mile southwest of the Roxbury pool, McPherson County, rotary rig; Bradley Brothers and others' No. 1 Bean, C E½ NE SW Section 23-19-6w, about 4 miles northwest of the Bornholdt pool, Rice County, location; Progressive Oil Co. and others' No. 1 Chavez, C E½ SW NW Section 26-20-5w, about 2 miles east of the Bornholdt pool, McPherson County, location; O'Haver & Thompson's No. 1 Montgomery, CEL SW Section 13-27-13w, nearly 2 miles southeast of the Iuka pool, Pratt County, location; Forrester and others' No. 1 Altenbernd, C S½ S½ NW Section 35-12-20, Douglas County, spudded and was shut down at 79 ft. In addition, extension wells were started in the Severy area of Greenwood County, Laton area in Rooks County, two in the Stiltenberg area of Ellsworth County, north of the Otis field in Rush County, south of the Otte pool in Barton County, north of the Bornholdt pool in McPherson County and near the Virgil pool in Greenwood County.

In Johnson County

F. J. Kasper, trustee's No. 2 Kaths, C NW Section 33-13-22, in the new Kaths area, Johnson County, gaged more than 400,000 cu. ft. of gas, producing from both upper and lower Squirrel sands, and was completed. Operators set packer in a firm lime formation above the upper Squirrel sand, with 4⅞-in. casing set at 700 ft. Lower Squirrel sand was found at 635-46 ft. Operators were starting work at their No. 1 Hammer, C NE SW Section 33-13-22, offsetting the three producers already completed. It is scheduled to test Burbank or upper Bartlesville sand.

The Wilkins and North Wilkins pools in Ellsworth County apparently were connected at Duwe & Farris and others' No. 1 Wilkins, SE NE Section 13-17-10w, showing for an Arbuckle lime producer.

Wildcat Completions

Aladdin Petroleum Corp.'s No. 1 Bitikofer, C N½ NE NW Section 1-20-1w, in eastern McPherson County, near the old Wenger area, was completed as a small pool opener. It found Mississippi lime at 2,885 ft., first gas 2,907 ft., pay at 2,911-13 ft., with gas gaging 3,000,000 cu. ft. and spraying oil, total depth 2,916 ft. It was acidized and made daily potential of 49 bbl. of 29-gravity oil, with 3,500,000 cu. ft. of gas.

Two attempts to find chat production west of the Welch and Bornholdt areas in Rice County were unsuccessful. C. L. Carlock and others' No. 1 Conrad, C W½ SW NE Section 15-20-6w, about 3 miles west of the Bornholdt area and north of Welch, found Mississippi formation at 3,308 ft., had nothing showing and was abandoned at 3,390 ft.

Clyde Pulse and others' No. 1 Baker, CSL SW SW Section 33-20-6w, about 1 mile west of the Welch pool, had Mississippi lime at 3,424-92 ft., and was dry and abandoned at 3,508 ft.

Russell Moore's No. 1 Lille, C S½ SE NE Section 30-16-10w, southwest of the Stoltenberg area, Ellsworth County, topped Arbuckle lime at 3,371 ft., had a hole full of water at 3,402-06 ft., total depth, and was abandoned.

Cities Service Oil Co.'s No. 1 Hansen, SE SE NW Section 15-6-19w, Rooks County wildcat, had nothing showing in Arbuckle lime at 3,635-3,700 ft., total depth, and was abandoned.

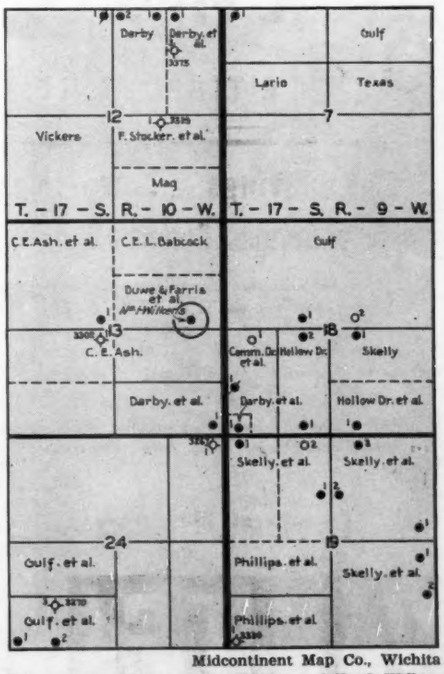
W. H. Gaddis and others' No. 1-A Shannon, C E½ SE SW Section 11-27-10w, wildcat in Kingman County, topped Viola lime at 4,293 ft., found some spotted saturation in cores of cherty dolomite, but it was deemed insufficient to produce commercially and the hole was abandoned at total depth of 4,315 ft.

Russell County

Skelly Oil Co.'s No. 1 Phinney, CNL NE NW Section 30-14-13w, Hall pool, Russell County, was completed at total depth of 2,897 ft. in Lansing lime for daily potential of 1,183 bbl. of oil after acidization.

Mid-Continent Petroleum Corp.'s No. 1 Rogg, C N½ SW NE Section 32-14-13w, was bottomed at 2,873 ft. in Lansing lime, acidized and made daily potential of 1,347 bbl. of oil.

Cities Service Oil Co.'s No. 3-A Eichman, C W½ NW NW Section 12-15-14w, Trapp field, was completed at 3,104 ft. in Lansing lime for daily potential of 1,928 bbl. of oil after acidizing. Same company's No. 8 Podszus, SE NW NW Section 25-15-14w, Trapp field, total depth 3,320 ft. in Arbuckle lime, made potential of 205 bbl. of oil daily. Same company's No. 10-A Stecker, C E½ NE NE Section 35-14-14w, Gurney area, total depth 3,171 ft., made maximum potential of 3,000 bbl. of oil. Same company's No. 2 Roesner, SW NE SW Section 23-15-14w, Trapp field, total depth 3,351 ft., made maximum potential of 3,000 bbl. of oil.



Midcontinent Map Co., Wichita

The connection between the Wilkins and North Wilkins areas in Ellsworth County apparently has been proven at Duwe & Farris and others' No. 1 Wilkins, SE NE Section 13-17-10, midway between the north end of the Wilkins pool and the North Wilkins pool. Operators swabbed 3 bbl. of oil an hour naturally from Arbuckle lime at 3,237-63 ft., and were preparing to test

Sheli Oil Co.'s No. 3-A Batt, SE NE SE Section 35-15-14w, Trapp field, bottomed at 3,334 ft. in Arbuckle lime, made potential of 3,000 bbl. of oil after calculation. Same company's No. 11 Dumler, NW SW SE Section 36-15-14w, Trapp field, made swabbing potential of 106 bbl. of oil daily at total depth of 3,354 ft. in Arbuckle lime.

Stanolind Oil & Gas Co.'s No. 9 Roesner, CEL SW NW Section 9-15-13w, Coralena pool, made initial daily potential of 549 bbl. of oil from Arbuckle lime at total depth of 3,316 ft. Same company's No. 2-A Bond, NE SW SW Section 23-14-13w, Hall pool, total depth 3,174 ft. in Arbuckle lime, acidized, made daily potential of 478 bbl. of oil.

Carter Oil Co.'s No. 10 Detrich, CNL SE SW Section 8-15-13w, Coralena pool, total depth 3,217 ft. in Lansing lime, was acidized and made swabbing potential of 64 bbl. of oil daily after acidizing.

Gulf Oil Corp.'s No. 2 Rein, C S½ SE NE Section 8-15-13w, Coralena pool, bottomed at 3,120 ft. in Lansing lime, made daily potential of 672 bbl. of oil. Wolf Creek Oil Co.'s No. 3-A Rouback, C N½ SW NE Section 15-14-15w, Gorham area, total depth 3,246 ft., made potential of 3,000 bbl. Helmerich & Payne, Inc. and others' No. 3 Holl, C W½ W½ NW Section 22-14-14w, Gurney area, made potential of 315 bbl. at total depth of 3,116 ft. Coralena Oil Co.'s No. 2 Graham, C S½ SE SE Section 21-14-13w, Hall area, was dry and abandoned at 2,968 ft. M. E. Trapp's No. 1 Gross, C N½ NW NW Section 5-15-13w, Hall area, total depth 2,150 ft., made potential of 2,150 bbl.

Estimated Daily Production

Estimated daily production for Kansas for the week ended June 15, and for the preceding week was as follows:

	Barrels	
	June 15	June 8
Oxford City	800	750
Burrton	7,900	7,800
Ritz-Canton	3,700	3,550
Graber	2,750	2,700
Hollow-Nikkel	1,450	1,350
Lerado	750	500
Voshell	1,600	1,500
Wellington	1,800	1,650
Ellsworth County:		
Lorraine	1,700	1,300
Other pools	2,995	2,030
Rice-Barton counties:		
Bloomer	4,500	2,250
Chase	4,450	3,400
Geneseo	3,450	3,250
Raymond	700	750
Silica	11,950	8,750
Keesling	750	650
Wherry	4,150	3,550
Miscellaneous Rice	1,050	1,510
Miscellaneous Barton	7,925	5,905
Trapp district	13,250	10,650
Balance Russell County	16,550	16,700
Sedgwick County	3,300	3,150
Ellis County:		
Bemis	8,000	8,100
Miscellaneous	8,440	4,885
Kingman County	950	575
Stafford County	7,585	4,995
Greenwood County	8,150	8,390
Eldorado	7,300	7,250
Other fields	32,805	33,200
Total Kansas	170,650	150,950

Rice County

Transwestern Oil Co.'s No. 2 Shumway, CSL NE NE Section 13-20-6w, Bornholdt area, Rice County, was bottomed at 3,329 ft. in chat and made swabbing potential of 35 bbl. of oil. Skelly Oil Co.'s No. 2 Purcell, CWL SE NW Section 33-19-9w, Campbell area, total depth 3,223 ft. in Arbuckle lime, made potential of 378 bbl. Continental Oil Co. and others' No. 5-A Pickerill, SW NW NE Section 24-18-8w, Geneseo field, total depth 3,180 ft. in Arbuckle lime, made potential of 2,061 bbl. Westgate-Greenland Oil Co.'s No. 1-A Johnson, C S½ SE SE Section 24-20-6w, Bornholdt pool, total depth 3,332 ft., made daily potential of 3,000 bbl. W. C.

McBride, Inc.'s No. 4 Hodge, C N½ SE NE Section 25-20-6w, Bornholdt pool, total depth 3,360 ft., made potential of 135 bbl of oil daily.

Barton County

Hollow Drilling Co. and others' No. 2 Kowalsky, C E½ SW NE Section 18-20-11w, Clawson area, Barton County, was bottomed at 3,300 ft. in Arbuckle lime, acidized and made daily potential of 1,753 bbl. of oil, calculated. Black-Marshall Oil Co.'s No. 2 Webber, C S½ NE SE Section 14-16-12w, Feltes pool, total depth 3,364 ft., made potential of 1,288 bbl. Spencer & Yarnell's No. 4-A Gemeinhardt, C E½ E½ SW Section 36-17-11w, Bloomer field, total depth 3,294 ft., made potential of 500 bbl., estimated.

McPherson County

Sunray Oil Co.'s No. 2 Mattson, CWL SW NE Section 30-20-5w, Bornholdt field, McPherson County, was bottomed at 3,378 ft. and made daily potential of 36 bbl. of oil from chat. Westgate-Greenland Oil Co.'s No. 4 Henne, C E½ SW SE Section 18-17-1w, Roxbury area, total depth 2,681 ft. in chat, made potential of 327 bbl. daily. Republic Natural Gas Co.'s No. 2 Swanson, C N½ NW SW Section 18-20-5w, Bornholdt area, total depth 3,338 ft., made daily potential of 3,000 bbl.

Ellsworth County

Lario Oil & Gas Co.'s No. 2 Mehl, CSL SE SE Section 35-16-10w, Stratman pool, Ellsworth County, total depth 3,286 ft., acidized, made daily potential of 3,000 bbl. Lauck & Moncrief's No. 1 Myers, C NE NW Section 35-16-13w, Ehler pool, total depth 3,270 ft. in Arbuckle lime, made daily potential of 242 bbl. of oil. Stanolind Oil & Gas Co.'s No. 6-C Stoltenberg, CWL SW SW Section 22-16-10w, Stoltenberg pool, total depth 3,335 ft., made potential of 251 bbl.

Reno County

Colorado Petroleum, Inc.'s No. 2 Sabin, NW NW NE Section 13-23-4w, Burrton field, Reno County, total depth 3,381 ft. in chat, made potential of 554 bbl. daily. Olson Oil Co.'s No. 3 Vogt, SW SW NE Section 26-23-4w, was completed for 24 bbl. of oil daily from chat at total depth of 3,409 ft.

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Miscellaneous Completions

Hawkeye Oil Co.'s No. 7 Hittle, NE SW NE Section 21-31-4, Hittle pool, Cowley County, was bottomed at 3,321 ft. in Arbuckle lime and made flowing potential of 8,054 bbl. of oil daily.

Krueger's No. 3 Tatkenhorst, C N½ NW SW Section 11-9-16w, Westhusin area, Rooks County, was completed for 486 bbl. of oil daily at total depth of 3,181 ft.

Darby Petroleum Corp.'s No. 7 Henderson, C W½ NW NW Section 7-11-17w, Burnett pool, total depth 3,447 ft. in Arbuckle lime, made daily potential of 3,000 bbl.

Stafford County: Champlin Refining Co.'s No. 1-A Snider, C N½ NW NW Section 29-22-11w, Snider pool, total depth 3,446 ft., dry and abandoned. Stanolind Oil & Gas Co.'s No. 3 Heggy, C W½ NW NE Section 11-24-11w, Zenith pool, total depth 3,789 ft., made daily potential of 3,000 bbl. Same company's No. 7 Sims, C E½ NW NE Section 11-24-11w, total depth 3,778 ft., made potential of 3,000 bbl. Transwestern Oil Co.'s No. 2-A Banker, C W½ NE SE Section 10-24-11w, total depth 3,808 ft., made potential of 2,251 bbl. Stanolind Oil & Gas Co.'s No. 6 Spangenberg, C S½ SE NW Section 29-23-11w, Richardson pool, total depth 3,648 ft., dry and abandoned.

I. Molk's No. 2 Wagner, SE NE SW Section 29-26-6, Butler County, was bottomed at 2,765 ft. and pumped 35 bbl. of oil daily. Rex & Morris and others' No. 1 Greeley, NE NE SE Section 16-28-7, Butler County, pumped 35 bbl. of oil daily at total depth of 2,672 ft.

Garden and others' No. 1 Rahn, NW NW SW Section 13-34-5, Cowley County, was dry and abandoned at 2,984 ft.

New Operations

First reports of the past week included the following new operations:

Ellsworth County—Skelly Oil Co.'s No. 1 Harblack CEL NE NE Section 7-16-10w, rigging up rotary; H. V. Elwell and others' No. 1 Harejsi, C N½ NW SW Section 17-16-10w, building rotary rig; Stanolind Oil & Gas Co. and Gulf Oil Corp.'s No. 2 Stoltenberg, C S½ SE NE Section 27-16-10w, location.

Ellis County—Dickey Oil Co.'s No. 4 Kollman, C S½ NW SE Section 18-11-17w, rotary rig; Ryan Consolidated Corp.'s No. 6 Bemis, NW NE SW Section 21-11-17w, building rotary rig; Winkler-Koch and others' No. 2 Hadley, CSL SW NW Section 21-11-17w, rigging up rotary; Cities Service Oil Co.'s No. 15 Collahan, NW SW SW Section 24-11-17w, location; Bay Petroleum Corp.'s No. 4-B Riddler, C W½ NW SE Section 1-11-18w, set casing and waiting at 80 ft.; Carter Oil Co.'s No. 2 Weisner, CNL SW SE Section 11-12-18w, location.

Russell County—R. H. Shields' No. 3 Rogg, CSL SW NW Section 9-15-13w, rigging up; W. I. Southern, Inc.'s No. 5 Sellens, CEL NE SE Section 29-15-13w, cellar; Skelly Oil Co's No. 15 Neidens, C N½ N½ SE Section 32-15-13w, moving in material; Republic Natural Gas Co.'s No. 3 Roesner, CEL NW SW Section 23-15-14w, fishing at 800 ft.; Mid-Continent Petroleum Corp.'s No. 5 Ochs, C S½ S½ NE Section 35-15-14w, location; Texon Oil Co.'s No. 4 Lipprand, SW SE NW Section 35-14-13w, rigging up rotary; Skelly Oil Co.'s No. 5 Rein, C N½ NW SW Section 25-14-14w, moving in material; Stanolind Oil & Gas Co.'s No. 5 Rein, C N½ NE NW Section 25-14-14w, location; same company's No. 4-B Nickel, CEL NE NW Section 36-14-14w, location.

Barton County—Sinclair Prairie Oil Co.'s No. 6 Hoffman, NW NW NE Section 7-16-13w, building rotary rig; Thurman Hill and others' No. 1 Miller, SE SE NE Section 21-19-14w, drilling below 100 ft.; Stanolind Oil & Gas Co.'s No. 15 Schartz, C W½ Section 2-20-11w, location; same company's No. 21 Panning, C N½ N½ NW Section 11-20-11w, location.

Butler County—Rex & Morris' No. 2 Greeley, SE NE SE Section 16-28-7, drilling below 250 ft.; Cromwell & Lewis' No. 1 Reetz, SW cor. Section 35-27-5, cellar.

Greenwood County—Lemon and others' No. 1 Gladson, SW NW NE Section 17-28-11, drilling below 200 ft.; Reed and others' No. 3 Dove, C S½ N½ NE Section 17-28-11, location; Henderson Oil Co.'s No. 1 Schneider, NW SE NW Section 9-23-13, drilling below 75 ft.

McPherson County—Westgate-Greenland Oil Co.'s No. 2 Union, C W½ SE NE Section 18-17-1w, rotary rig; same company's No. 3 Union, CWL SW NE Section 18-17-1w, location; Aladdin Petroleum Co.'s No. 1 Young, CSL SE SW Section 36-19-1w, building rotary rig; Cities Service Oil Co.'s No. 4 Pearson, CNL SW SE Section 19-20-5w, drilling below 980 ft.; Transwestern Oil Co.'s No. 1 Nelson, C W½ SE NE Section 19-20-5w, location; H. C. Bennett and others' No. 2 Knackstedt, CNL NW SW Section 30-20-5w, drilling below 560 ft.; Cary Drilling Co.'s No. 4 Knackstedt, CNL NE SW Section 30-20-5w, drilling below 1,475 ft.; Continental Oil

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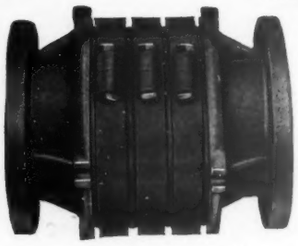


Use Them On High Temperature Lines and Eliminate Maintenance

Stainless Steel . . . to withstand temperature even as high as 900° F. and yet allow the directed flexing corrugations to function perfectly in absorbing expansion and contraction in the process lines.

Packless . . . to eliminate the need for servicing of any kind during the long life of the joints. And the fact that they are as compact as any fitting reduces to a minimum the amount of insulation necessary.

Note, too, the name BADGER is the same that has been identified with the pioneering and development of the corrugated type of copper expansion joint so widely used throughout industry. This is an assurance of quality of product and suitability of application.

E. B. BADGER & SONS CO.

75 PITTS STREET **BOSTON, MASS.**

Agents in Principal Cities

MADE ESPECIALLY FOR XMAS TREES

This DURAGAUGE has no equal with its beautiful crystal clear plastic cover (can't break or shatter like glass). This permits a moisture and dust-proof fit on a non-corrosive phenol case. This Xmas Tree DURAGAUGE is rugged and permanently accurate.

It has a white etched aluminum dial with full 270° arc (any standard graduation). The micrometer pointer makes easy calibration possible in the field.

It is made with a heavy forged steel socket with ½" pipe thread connection. The patented Rotary Movement is non-corrosive, phosphor bronze with monel bushings.

The Xmas Tree DURAGAUGE costs no more than any ordinary gauge not made specifically for Xmas Tree service.

Order Xmas Tree DURAGAUGES from your distributor.

Branch stocks in Tulsa and Los Angeles. Other branches in Dallas, Houston, New Orleans.

ASHCROFT GAUGES MANNING, MAXWELL & MOORE, INC. BRIDGEPORT CONNECTICUT

Co.'s No. 4 Bornholdt, CWL NE SE Section 30-20-5w, location; same company's No. 4 Knackstedt, CSL NE NW Section 30-20-5w, building rotary rig; Sunray Oil Co.'s No. 4 Johnson, CSL SW NE Section 31-20-5w, cellar.

Miscellaneous—Wixon and others' No. 1-A Aylward, C E½ NW NW Section 9-31-7, Clover area, Cowley County, gaged 2,390,000 cu. ft. of gas at 1,085 ft., drilling deeper; Stanolind Oil & Gas Co.'s No. 8 Sims, C N½ NE NE Section 11-24-11w, location.

Forest City Basin

ST. JOSEPH, Mo., June 17.—Operations continue to increase in the Richardson County, Nebraska, sector of the Forest City basin, the newest test being Indian Territory Illuminating Oil Co.'s No. 1 Schaible-Kuttler Consolidated, C NE SW Section 29-3n-16e, about 2½ miles southeast of the village of Shubert and 7 miles north of Falls City. Ferndale Drilling Co., Odessa, Tex., has the contract to drill with rotary tools to Arbuckle lime, expected at about 3,750 ft. Both seismograph and core-hole tests have been made in the block of about 8,000 acres. The wildcat is on a 40-acre location, the company planning to develop its block on 40-acre spacing.

Harry Harper's No. 1 Sibbernsen, SE NE NW Section 20-1n-16e, Falls City area, topped Hunton lime at 2,210 ft. and drilled 15 ft. in with rotary tools. Saturation was found in a core, but the lime was hard and tight and the hole may be drilled deeper with cable tools. Geologists are optimistic about the well, expecting it to be as productive as Pawnee Royalty Co.'s No. 1 Bucholz, ¾ mile northwest, which has been flowing 330 bbl. daily as operators try for the $15,000 bonus for the first Nebraska well to produce for 60 consecutive days.

One other test is near Hunton lime in Richardson County, the Uhri Oil Co.'s No. 1 Ogle, NE NW SE Section 9-1n-14e, but operators are not releasing information. It is believed to be at about 2,000 ft., with Hunton lime expected at 2,235 ft. E. V. Jackson and Chester Carlock were digging cellar at their No. 1 Holt, SW SW Section 35-2n-16e, about 1 mile north of Falls City.

Leasing has spread into Nemaha County, Nebraska, with the activity lapping over into Atchison County, Missouri. A block is being assembled in Township 6n-15e, near Peru, Nemaha County, and in Townships 65 and 66-43w, Atchison County, Missouri. Buyers are reported taking the leases for major companies.

Sonken-Galamba Corp. is reported to have spudded No. 1 Lehr, C SE SE Section 25-5n-14e, and No. 1 Ord, C NW NW Section 8-5n-14e, Nemaha County. Davis Brothers, Independence, Mo., drilling contractors, started with light rigs and are moving in heavy tools.

Dan McLaughlin announced new location on his Jefferson County, Kans., block, which now has one gas well and one oil well. It is his No. 1 Darks, SW NW Section 4-10-20e, north of the oil well and south of the gas well.

Western Kentucky

(Continued from Page 58)

M. J. Holbrook, dry hole through Jett sand, total depth 610 ft. Handyville district: Staves Drilling Co.'s No. 5 L. I. Iglehart, moving in to drill to Jett sand. A. Teller, trustee's No. 3 E. F. Lebold, east tract, 196-bbl. well in Jett sand at 1,267-92 ft. Maceo district: Hart & Hart's No. 2 William Nance, 10-bbl. well in Jett sand, total depth 794 ft.

Hancock County, Easton district: J. H. Taulbee's No. 1 H. T. Keown, dry hole through Jett sand, total depth 364 ft. W. J. Flesher's No. 2 William F. Burk, rigging up. Cloverport district: Rev. Hunger, trustee's No. 3 C. A. Johnson, dry hole through McClosky lime, total depth 500 ft.; No. 4, rigging up. Roy Beard's No. 1 R. E. Pate, rigging up.

Larue County, 5 miles northeast of Hodgensville: Courtney Combs' No. 1 A. Lee, moving in.

Logan County, 1½ miles southeast of Pauline: Ohio Oil Co.'s No. 1 Dr. A. M. Belcher, rigging up.

Ohio County, Oaks district: Sohio Producing Corp. and others' No. 15 Sallie J. Bedell, moving in. Narrows district; Fred Hupp's No. 1 Ben Gentry, dry hole through McClosky lime, total depth 849 ft. Oklahoma district: O. D. Vickers and others' No. 5 T. Greer, moving in. Deanfield district: W. F. Stevenson and Stewart's No. 1 O. and G. Hertzing, rigging up. Pleasant Grove Church district: Shaffer & Mays' No. 10 A. R. Renfrow, dry hole through Jett sand, total depth 370 ft. Friendship Church district: Oliver Jenkins and others' No. 3 E. M. Royal heirs, 10-bbl. well in Jett sand, 387-402 ft., total depth 406 ft.

North Louisiana, Arkansas

By GEORGE WEBER

Arkansas Has New Pools in Miller, Lafayette Counties

SHREVEPORT, La., June 17.— The completion of two field discoveries in southern Arkansas marked one of the most fruitful weeks in several months in the tristate district.

Standard Oil Co. of Louisiana completed No. 1 Sturgis in the Paluxy formation for 100 bbl. hourly to open Miller County's new field and Atlantic Refining Co. completed No. 1 Bodcaw Lumber Co. in Lafayette County for that area's new discovery.

Fouke Area

Standard Oil Co. of Louisiana's No. 1 W. P. Sturgis, C SE SE Section 1-17-27, was completed for 2,400 bbl. daily, based on short flows of 100 bbl. hourly. The well is producing through perforations in casing from 3,576 to 3,606 ft. with 120 "gun" shots in the Paluxy formation. It was plugged back from a total depth of 9,550 ft., where it was dry. The flow on official gage was through $\frac{1}{4}$-in. choke on tubing under pressures of 130 lb. on the tubing and 220 lb. on the casing. The oil tested 31.4° gravity, corrected, and the gas-oil ratio at the well is 394-1. The well has not yet been definitely assured a pipe-line connection.

New Smackover Field

Atlantic Refining Co.'s No. 1 Bodcaw Lumber Co., Section 29-17-23, wildcat in Lafayette County which last week indicated production, has been officially gaged to open a new Smackover lime field. The well flowed 21 bbl. hourly on gage through 16/64-in. choke on tubing. Pressures were recorded as 2,950 lb. on the tubing and 3,100 lb. on the casing. The test is bottomed at 8,177 ft., having topped the Smackover lime at 8,139 ft. The gas-oil ratio at the well is 743-1 and the oil is 58.6° gravity, corrected. This new discovery is in the McKamie area 8 miles south of Stamps. Several large lease deals were reported for the area surrounding the wildcat, all based on the assumption that production would be oil. The distillate output of the well, however, definitely indicates a structure and future drilling is hoped to establish oil production. A temporary allowable of 300 bbl. daily has been given the well, the output being moved by trucks.

A Correction

Correcting an erroneous report on J. & J. Oil Co.'s No. 1 Barnes, Section 4-16-24, Lafayette County, Arkansas, in the June 6 issue, the latest report on the well is that a core was taken at 2,133-43 ft., which recovered sandy marl. A Schlumberger test was run to 2,155 ft. and the well stands, awaiting owners' orders at a total depth 2,200 ft.

NORTH LOUISIANA COMPLETIONS

Beinville Parish

Arkansas Louisiana Gas Co.'s No. 1 H. R. Wimberly, Section 15-16-10, made 46,570,000 cu. ft. of gas daily from 5,116-5,210 ft.

La Salle Parish

Placid Oil Co.'s No. 4 Goodpine Lumber Co., Section 18-10-3, made 150 bbl. of fluid daily, 40 per cent water, from total depth of 2,442 ft.

Morehouse Parish

Southern Carbon Co.'s No. 30 Tensas Delta Lumber Co., Section 2-41-4, made 3,136,000 cu. ft. of gas daily from total depth of 2,230 ft.

Caddo Parish

C. J. Brown's No. 3 Muslow, Section 5-20-15, made 40 bbl. daily from a total depth of 1,554 ft. Cooper Oil Co.'s No. 2 Stiles, Section 33-20-16, made 5 bbl. of oil and 100 bbl. of water daily from total depth of 1,661 ft. Davidson & Brown's No. 1, in Section 10-21-15, made 5 bbl. of oil and 50 bbl. of water daily from a total depth of 1,875 ft. Four Star Gas Co.'s No. 2 Muslow, Section 5-20-15, made 200 bbl. daily from a total depth of 1,550 ft. E. A. Hilburn's No. 1 Shreveport Petroleum Co. made 5 bbl. hourly from total depth of 1,509 ft. Bobby Manziel's No. 3-B Muslow, Section 6-20-15, made 100 bbl. daily from a total depth of 1,511 ft. P. N. McCullough's No. 1 Rudderdorf, Section 11-20-16, made 5 bbl. daily from a total depth of 1,609 ft. Jack Terrell's No. 1 Welch, Section 3-20-16, dry and abandoned at a total depth of 1,540 ft.

Red River Parish

J. E. Parham's No. 1 Haynes, Section 20-13-10, dry and abandoned at total depth of 1,428 ft.

Production by Pool

Estimated daily gross production of all companies for the week ending June 14, follows:

NORTH LOUISIANA

	Barrels
Bellevue	475
Caddo light	5,120
Caddo heavy	2,130
Converse	540
Cotton Valley	*14,595
Cross Lake	5,040
De Soto and Red River	1,065
Elm Grove	260
Haynesville	2,765
Holly	50
Homer	2,850
Lisbon	4,530
Olla	1,990
Pleasant Hill	85
Rodessa	19,785
Sarepta-Carterville	†335
Sligo	2,485
Sugar Creek	735
Urania	2,510
Zwolle	‡1,720
Total	69,065

SOUTH ARKANSAS

Atlanta	2,300
Big Creek	65
Buckner	2,000
Champagnolle	1,140
Dorcheat	1,200
El Dorado	1,745
Fouke§	105
Lewisville	1,100
Lisbon	215
Magnolia	20,250
McKamie¶	100
Miller County	295
Nevada	545
Nick Springs	520
Rodessa	2,050
Schuler	18,500
Smackover light	1,750
Smackover heavy	13,740
Stephens	530
Troy	1,310
Urbana	930
Village	1,215
Total	71,605

*4,090 bbl. is distillate.
†54 bbl. is distillate.
‡Rodessa, Tex., 19,425 bbl.
§Standard Oil Co. of Louisiana's No. 1 Sturgis, Section 1-17s-27w, Miller County, Arkansas. Completed June 6, 1940, 33 bbl. per hour. Gravity 31.4°.
¶Atlantic Refining Co.'s No. 1 Bodcaw, Section 29-17s-23w, Lafayette County. Completed June 8, 1940, 10 bbl. distillate per hour. Gravity 57.6°.

SOUTH ARKANSAS COMPLETIONS

Clark County

A wildcat, Coker Oil Co.'s No. 1 H. C. and H. H. Cabe, Section 5-10-21, dry and abandoned at a total depth of 486 ft.

Lafayette County

A new wildcat discovery, Atlantic Refining Co.'s No. 1 Bodcaw Lumber Co., Section 29-17-23, made 21 bbl. hourly from the Smackover lime topped at 8,139 ft. and drilled to 8,177 ft. East Texas Refining Co.'s No. 2 E. P. Davis, Section 19-16-23, pumped 150 bbl. daily from a total depth of 3,480 ft.

Columbia County

Tide Water Associated Oil Co. and Seaboard Oil Corp.'s No. 1 Talley, Section 14-18-19, made 32 bbl. hourly from total depth of 8,177 ft.

Union County

Fohs Oil Co.'s No. 2 C. T. Grace, Section 31-17-14, made 10 bbl. hourly from a total depth of 3,766 ft. through perforations in casing from 2,732-38 ft.

Miller County

A wildcat field discovery, Standard Oil Co. of Louisiana's No. 1 W. P. Sturgis, Section 1-17-27, made 100 bbl. hourly through perforation from 3,576-3,606 ft. in the Paluxy formation, plugged back from total depth of 9,550 ft.

EAST TEXAS BORDER COMPLETIONS

Harrison County

Fohs Oil Co.'s No. 1 M. J. Hall, Jr., dry and abandoned at a total depth of 4,693 ft.

Marion County

In the Jefferson field Holcomb & Thomason's No. 1-A Madine, 33-acre tract in the A. D. S. Coy Survey, made 69 bbl. in 17 hours through 12/64-in. choke from a total depth of 1,618 ft.

Ohio Fields

(Continued from Page 58)

Co.'s No. 5 Thomas Szues, Lot 45, is a small gas well in the Berea, depth 234 ft.

In Medina County, Chatham Township, Edison & Son completed four oil wells in the Berea, Nos. 8 and 9 J. H. Auble, Tract 16, Lot 13, 15 bbl., 10 bbl., depth 379 and 386 ft.; Nos. 14 and 15, Samuel Brant, Tract 16, Lot 2, 10 bbl. and 5 bbl., depths 479 and 510 ft.

In Muskingum County, Harrison Township, Ohio Fuel Gas Co.'s No. 1 H. W. Offenbacker, Section 19, is a gas well in the Clinton sand gaging 4,120,000 cu. ft., open flow, from sand at 4,248-82 ft.

In Noble County, Yoker Valley field, Beaver Township, Ohio Fuel Gas Co.'s No. 1 W. H. Ankrum, Section 28, gaged 380,000 cu. ft. of gas from Berea sand, at 1,599-1,609 ft. Enock Township, Gerst and others' No. 1 Louis Kress, Section 10, was dry and abandoned at 801 ft.; Jackson Township, Albert Wendall and others completed a 3-bbl. oil pumper in the M-500 sand on the Oris Haga tract, Section 25, depth 838 ft.

In Perry County, Clayton Township, Gas Producing Co.'s No. 4 Emma E. Williams, Section 18, gaged 1,000,000 cu. ft. of gas after shooting the Clinton sand with 90 qt. at 3,170-3,200 ft. Jackson Township Glass Brothers' No. 1 E. G. Brown, found Berea dry, depth 848 ft.

In Tuscarawas County, Fairfield Township, Bendel Producing Co.'s No. 1 J. C. Dessecker, Section 14, makes 340,000 cu. ft. of gas, open flow, in the Red Clinton, total depth 5,193 ft.

In Washington County, Liberty Township, Henning & Cullen's No. 4 Michael Cullen, Section 21, makes 35 bbl. of oil a day natural flow from Keener sand at 1,386-91 ft. Wesley Township, H. B. Walker's No. 1 S. B. Zumbro, Section 26, has a settled production of 1 bbl. of oil a day from the First Cow Run sand, depth 543 ft.

In Wood County, Center Township, Limmerbrook Brothers, in Section 25, topped the Trenton at 1,157 ft.; had a small show of gas after drilling 53 ft. in, and may deepen.

Rocky Mountain Area

By

T. R. INGRAM

Accord Tribal Blessing to Jacarilla-Apache Wildcat

DENVER, Colo., June 17.—As a result of refinery expansion in 1938 and 1939 in Colorado, plants in the state supplied 30.5 per cent of total consumption in 1939 as compared with 14.9 per cent in 1937. Imports of gasoline by truck increased in 9 years from 1.1 per cent to 45.8 per cent of total imports.

NEW MEXICO

Routine locations and completions made up a rather inactive week in the Southeast New Mexico district. Eight new locations were staked in the two most active counties, Eddy County receiving three and Lea County five.

Several active wildcats throughout the district drew some attention, but critical stages have not yet developed at most of them. Schumaker & Ritchey's No. 1 Levers, semiwildcat test in the High Lonesome area of northern Eddy County and 2 miles south of the field's' discovery well and a similar distance north of the Root area, logged water in red sand from 1,720-36 ft. The test, located in the NE NE Section 33-16-29, was last reported shut down for repairs at 1,750 ft.

A wildcat test about 9 miles east of the High Lonesome field and about 5 miles north of the Grayburg area, Thomas & Bowers' No. 1 Etz, SW NW Section 13-16-30, was last reported cleaning out after shot at a plugged-back total depth of 3,200 ft. from 3,744 ft. The test swabbed at the rate of 10 bbl. oil daily after the 80-qt. shot from 3,140-60 ft.

Eddy County

Sanders Bros.' No. 1 De Temple, NW NW Sec. 27-19-31. S.D.O. 2,410 ft.

Bassett & Birney's No. 1 Platt, SW cor. Sec. 26-18-26. Old failure being D.D. below 2,342 ft.; W.O.C. 2,445 ft.; (cor.).

Max Weathers' No. 1 Flood, SE SE Sec. 24-18-23. S.D.O. 1,560 ft.; sulf. wtr. 1,515-20 ft.

M. Yates, Jr.'s No. 1 McCall, SW SW Sec. 24-18-26. S.D. 860 ft.

Jack Harris' No. 1 Josey, SW SE Sec. 19-20-23. S.D.R. 286 ft.

Schumacker's No. 1 Levers, NE NE Sec. 33-16-29. S.D.R. 1,750 ft.

J. B. Mulcock's No. 1 Etz, 660 ft. from S and W lines, Sec. 25-16-30. Rng. 8¼-in. to 2,424 ft.

Everts' No. 1 Greer, SE cor. Sec. 31-16-31. P.B. 3,690 ft.; swb. 5 B.O.P.D. for 7 days; tstg.; S.D.W.O.

Everts & Moran's No. 1 Ranuz, NE NW Sec. 18-23-26. T.D. 1,373 ft.; U.R.

J. B. Cowden's No. 1 State, SW SE Sec. 3-17-29, between Root field and High Lonesome field. R.U. mach.

G. A. Grober's No. 1 Wright, 1,080 ft. from N and W lines, Sec. 25-18-28. S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; fsg. 2,310 ft.

G. M. Cone's No. 1 Hare, NW NW NE Sec. 14-16-28, 3 mi. W of High Lonesome field. S.D.R. 1,400 ft.

Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Est. 1,250,000 cu. ft. at 938 ft.; drlg. 1,158 ft.

Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-28. O.W.D.D.; top gas sand 2,891 ft.; est. 2,000,000 cu. ft. gas; casing set at 2,873 ft. and collapsed at 2,200 ft.; recmtd. csg.; W.O.C.

Wilder's No. 1 Young, 1,650 ft. from N and W lines, Sec. 23-16-29. S.G. 1,805 ft.; W.O. mch. 3,095 ft.

Sam Montgomery's No. 1 Kaltenbach, 330 ft. from N and W lines, Sec. 24-16-27. S.D.O. 2,243 ft.

Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. T.D. 3,744 ft.; P.B. 3,200 ft.; C.O. after shot from 3,140-60 ft.; before shot made 10 B.O.P.D.; swbg.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. S.D.O. 2,620 ft.

Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. T.D. 2,785 ft.; S.D.O.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. S.D.O. 3,204 ft.; S. S.G. 3,180 ft.

Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D.O. 825 ft.

Luna County

O. D. Berry's No. 2 Berry, Sec. 33-22-10. Pulling 6⅝-in. csg. at T.D. 925 ft.

Lea County

Gulf Oil Corp.'s No. 1 Amanda E. Drinkard, NW SE Sec. 25-22-37, in Skelly area; 5,000-ft. test. S.S.G. 3,794-3,804 ft.; made 5 gal. oil hourly; T.D. 3,958 ft.; prep. P.B. 3,545 ft.; test.

J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. S.D.O. 4,055 ft.; S.S.O. 4,040-50 ft.; 1 baller oil after 2-day shut-in; S.D. 4,080 ft.

Stogner & Weiner's No. 1 State, SE SE Sec. 30-12-32. Prep. R.U.R. 1,373 ft.

Stanley & Weiner's No. 1 Saunders, NE NE Sec. 20-21-38. Spd. and S.D.

Socorro County

Joiner Oil Corp.'s No. 1 Belen grant, 2,310 ft. N and W lines, Sec. 16-3-1. S.D.O. 845 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Chaves County

A wildcat, Farrar-Jones-Cunningham's No. 1 Samples, SE SE SE Section 1-7-27, abandoned at total depth of 98 ft.

Eddy County

In the Leonard field M. T. Anderson's No. 2 Root, NW SW Section 12-17-29, made 141 bbl. daily flowing through open tubing after shot in pay from 2,533-92 ft.

In the Loco Hills field Banner Oil Co.'s No. 2 Miller, SW NE Section 4-18-29, made 45 bbl. daily, pumping, after shot in pay from 2,633-2,860 ft. Elliott's No. 1 Elliott-Shelby, SE SE SE Section 24-18-29, dry and abandoned at 3,860 ft. Hadlock & Randall's' No. 1 Lee, SE NW Section 24-18-29, abandoned but not plugged at total depth of 2,724 ft.

Lea County

In the Maljamar field Williams & Weir Drilling Co.'s No. 1 Miller, NW SW Section 23-17-32, made 48 bbl. in 6 hours through open tubing after shot in pay from 3,745-4,017 ft. Green Bay Oil Co.'s No. 2-A G. Mitchell, SE SE Section 6-17-34, made 25 bbl. daily flowing through 1-in. choke on tubing after shot in pay from 3,625-3,980 ft.

In the Vacuum field Magnolia Petroleum Co.'s No. 4-J State, NE NE Section 22-17-34, made 103 bbl. in 11 hours flowing through open tubing after shot in pay from 4,660-4,720 ft. Magnolia Petroleum Co.'s No. 65 State-Bridges, SE NW Section 14-17-34, made 54 bbl. in 3 hours flowing through open tubing after shot in pay from 4,598-4,660 ft.

In the Hardy field Gulf Oil Corp.'s No. 2 Owen, SW SE Section 34-21-37, made 138 bbl. daily flowing through open tubing after acid in pay from 3,635-3,740 ft.

In the Skelly field Stampfli & Martin's No. 3 Glier, NW NE Section 33-22-73, made 50 bbl. daily flowing after shot in pay from 3,598-3,688 ft. Gulf Oil Corp.'s No. 2 La Munion, SW NW Section 29-23-37, made 174 bbl. daily flowing through ½-in. choke after shot in pay from 3,553-3,625 ft.

In the South Eunice field Texas Pacific Coal & Oil Co.'s No. 11-A State, made 6 bbl. hourly from new pay drilled from 3,815-60 ft. (old well drilled deeper).

NORTHWEST NEW MEXICO

Bernalillo County

The Norins Realty Co., Inc.'s No. 2 North Albuquerque, NE SE NW Section 19-11n-4e, was reported plugged and abandoned at 5,024 ft. following completion of drilling contract. It had been drilling at intervals for nearly 5 years and in several horizons had shows of carbon dioxide gas. None of the formations drilled are identified in the reports.

Norins Realty Co., Inc.'s No. 2 Pajarito, Sec. 22-9n-1e. S.D. 2,000 ft.

McKinley County

Petroleum Products Corp.'s No. 7 Hospah, C SW SW Sec. 36-18n-9w. Drlg. sh. 1,615 ft.

Teague, Greer et al's No. 1 Santa Fe, Sec. 35-18n-10w. Drlg. below 1,000 ft.

Rio Arriba County

On June 10 the first well of Continental and Hughes on the Dulce structure in Rio Arriba County, No. 1 Jacarilla-Apache, CSL SE NE Section 22-31n-1w, spudded in and all of the 750 Indians living on the reservation who could make it were present. They staged a demonstration of their own kind in honor of the event and performed tribal dances for about 2 hours around the rig and crew and officials who witnessed the spudding. The test will go to the Dakota at least, which is expected within 2,000 ft. Lafayette M. Hughes will be the operator and the test will be drilled with cable tools. It is located on top of the Dulce dome as shown on the maps of the U. S. Geological Survey. The three structures are 12 to 15 miles south and west of the Gramps oil field in Colorado which is operated by the William E. Hughes estate, of which Lafayette M. Hughes is manager.

Lafayette M. Hughes-Continental Oil Co.'s No. 1 Jacarilla-Apache, CSL SE NE Sec. 22-31n-1w. Spdg.

San Juan County

The Continental Oil Co.'s No. 106 Rattlesnake, SW SE SE Section 12-29n-19w, Rattlesnake field, had water in the Dakota and was plugged and abandoned at 957 ft.

Southern Union Prod. Co.'s No. 11-B, CEL NE SE Sec. 25-28n-11w. Drlg. 1,010 ft.

Claude Carroll's No. 1 Cornell, C SE NE Sec. 11-29n-12w. Drlg. below 750 ft.

Kutz Deep Test, Inc.'s No. 1 Govt., C NW NW Sec. 28-28n-10w. S.D. 1,250 ft. for csg.

Continental Oil Co.'s No. 100 Rattlesnake, SE NW NE Sec. 2-29n-19w. S.D.O. 7,407 ft.

San Miguel County

Southwest Drlg., Inc.'s No. 1 Conchas, NW NE Sec. 34-17n-21e. T.D. 2,150 ft.; rmg. to set 8¼-in. on bttm.

Socorro County

Joiner Oil Corp.'s No. 1 Belen Grant, SE NW Sec. 10-3n-1e. Drlg. 850 ft.

Valencia County

C. A. Grober et al's No. 1 Fuqua, NE NE Sec. 19-5-3e. Cg. below 3,870 ft.

COLORADO

El Paso County

F. F. Hintze et al's No. 1 State, CSL SE SE Sec. 16-11s-60w. Drlg. 1,420 ft.; 8¼-in. at 1,410 ft.

La Plata County

Nick Spatter's No. 1-X Bryce, SW SW Sec. 31-33n-9w. S.D. 3,900 ft., for parts.

Larimer County

Continental Oil Co.'s No. 1 Whitaker, NE NW NW Sec. 30-8n-68w. T.D. 4,693 ft.; prep. to run lnr.

Ed Shogren et al's No. 1 Frazier, SE Sec. 31-4n-69w. S.D. 910 ft.; to change over to C.T.

Logan County

West Plains Oil Co.'s No. 1 Sheldon, SE NW SW Sec. 3-10-55w. T.D. 1,512 ft.; C.O. cavings and lowering csg.

Moffat County

The Mountain Fuel Supply Co.'s No. 5-A Wilson, on the Hiawatha structure, perforated the second sand in the Wasatch at 2,260-2,335 ft., and on a 2-day test averaged 250 bbl. per day. It has set packer and is preparing to perforate and test the first sand at 2,005-2,125 ft. Third sand at 2,482-2,522 ft. averaged 200 bbl. per day.

Park County

South Park Oil Co.'s No. 1 Leman, NE NE SE Sec. 34-11s-75w. Drlg. 7,310 ft.

Rio Blanco County

Texas Co.-California Co.'s No. 3 Unit, NE NE NE Sec. 27-3n-94w. Drlg. 6,002 ft.; T. Dak. 5,838 ft.

WYOMING

Albany County

Ohio Oil Co.'s No. 1 Coughlin, SW NE NW Sec. 26-16n-77w. T.D. 4,335 ft.; P.B. to Dak. at 3,765 ft.; tstg.

Big Horn County

Ohio Oil Co.'s No. 3 Davis, NW SW NW Sec. 34-56n-97w. Cmtd. 16-in. at 90 ft.

McDonald & Curtis' No. 1 Orchard, SE NW Sec. 24-51n-93w. Spd. and S.D. to comp. R.U.

Carbon County

Sinclair-Wyoming Oil Co.'s No. 14 Unit, NW SW NE Sec. 7-26n-89w. T.D. 4,210 ft.; rng. 9-in.

Crook County

Union Oil Co. of Calif.'s No. 1 Casey, SE NE NW Sec. 3-57n-62w. Drlg. 2,390 ft.; T. Sund. 1,185 ft.; T. r.b. 1,520 ft.

Fremont County

Sinclair-Wyoming Oil Co.'s No. 12 Unit, SW SE NW Sec. 23-32n-95w. Drlg. 3,075 ft.

Natrona County

The Continental Oil Co.'s No. 1 McGrath, deep test on North Geary, drilled to 8,343 ft. and found the Tensleep, topped at 8,036 ft., dry. It has plugged back to the Dakota at 6,350-80 ft., and will set whipstock and drill out of the casing to make another test of that sand.

General Pet. Corp.'s No. 31-21-G, NW NE NW Sec. 21-35n-77w. Drlg. 760 ft.; cmtd. 11¾-in. at 250 ft.
Lewis Gebhart's No. 1 Govt., NW NE SE Sec. 10-39n-78w. Drlg. 750 ft.
Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. T.D. 8,343 ft.; P.B. to test Dak.
Royal Oil Corp.'s No. 1, SW SW SW Sec. 26-35n-80w. Drlg. 205 ft.
Connelly Drlg. Co.'s No. 1 State, SW SW NW Sec. 36-36n-81w. S.D. 1,420 ft.

Niobrara County

Lance Creek had no completions nor new operations.

The Ohio Oil Co.'s No. 15 Carrie Putnam, a near completion, flowed 211 bbl. in 24 hours on a preliminary test after plugging back from 5,541 ft. to 5,481 ft.

Same company's No. 14 Elizabeth Lamb, also a near completion, flowed 35 bbl. per hour through casing perforated at 5,413-5,395 ft. and 5,385-68 ft., while cleaning out.

Ohio Oil Co.'s No. 15 Lamb-Acct. 1, NW SE SE Sec. 32-36n-65w. Rig; W.O. equip.
Argo Oil Co.'s No. 7 Ford, SE NW SE Sec. 33-36n-65w. Loc.
Minnelusa Oil Corp. and MacKinnie Oil & Drlg. Co.'s No. 11 Thompson, NW SE NW Sec. 7-35n-65w. Drlg. 5,068 ft.
Ohio Oil Co.'s No. 7 Agnes Rohlff, NW NE SE Sec. 32-36n-65w. Rig; W.O. equip.
A. B. Cobb's No. 1 Novick, SE NE NW Sec. 6-35n-65w. Drlg. 3,557 ft.
Continental Oil Co.'s No. 7-A Dielman, NW NE NW Sec. 8-35n-65w. Rig; W.O. equip.
Continental Oil Co.'s No. 19 Tom Bell, NW NE SE Sec. 33-36n-65w. S.D.; repairs; while spdg.
Argo Oil Co.'s No. 13-A Elliott, SE NE NW Sec. 5-35n-65w. Drlg. 4,190 ft.; T. Dak. 3,060 ft.
Ohio Oil Co.'s No. 16 Lamb-1, NW NE NE Sec. 5-35n-65w. Drlg. 2,450 ft.; cmtd. 10¾-in. at 318 ft.
Continental Oil Co.'s No. 7 Sam Joss, NW SW NE Sec. 6-35n-65w. Drlg. 4,320 ft.; T. Sund. 3,920 ft.
Continental Oil Co.'s No. 11 Otto Rohlff, SE NE SE Sec. 31-36n-65w. Drlg. r.b. 4,240 ft.
Ohio Oil Co.'s No. 14 E. Lamb-Acct. 2, C SW SE Sec. 5-35n-65w. T.D. 5,445 ft.; tstg.
Continental Oil Co.'s No. 3 E. Rohlff, SE SW NW Sec. 32-36n-65w. Drlg. 5,327 ft.; T. r.b. 4,238 ft.
Ohio Oil Co.'s No. 16 Putnam, SW SW NW Sec. 4-35n-65w. T.D. 5,529 ft.; P.B. to 5,435 ft.; perf. 7-in. at 5,425-10 ft. and 5,400-5,380 ft.; tstg.
Ohio Oil Co.'s No. 15 Carrie Putnam, NW NE SW Sec. 33-36n-65w. T.D. 5,541 ft.; P.B. to 5,481 ft.; tstg.
H. D. Moore's No. 1 Berggren, SE NW Sec. 23-35n-63w. T.D. 2,526 ft.; rng. 4⅝-in. for W.S.O.

Park County

Yale Pet. Corp.'s No. 2 Owens, NE SW SW Sec. 29-52n-100w. Drlg. L. 3,596 ft.

Sublette County

Texas Co.'s No. 1-G Govt., NW NW SW Sec. 27-27n-113w. Drlg. 814 ft.

Sweetwater County

The Sinclair-Wyoming Oil Co.'s No. 93-A, SW NW NW Section 11-26n-90w, Lost Soldier field, was completed in the Sundance at 2,020 ft., total depth, for 45 bbl. in 12 hours on a swabbing test. It had the top of the sand at 1,972 ft. It is rigging up gas lift.

The Union Gas Co. (Ray Phebus and others) has made a location for a wildcat on the northeast side of the South Baxter Basin dome in its No. 1 Hummer, and is building road. It will be drilled with cable tools.

Union Gas Co.'s No. 1 Hummer, NW NW NE Sec. 6-17n-103w. Loc.; (first report).
Mountain Fuel Supply Co.'s No. 1 Murphy, SE SE SE Sec. 27-17n-104w. Drlg. 3,622 ft.
Gus Ponglatz et al's No. 1 Clark, C NW NE Sec. 22-19n-104w. Drlg. below 1,000 ft.
Red Desert Corp.'s No. 1 Aspden, NW SW NW Sec. 34-18n-103w. Rig: M.I. rotary tools.
Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. Drlg. 2,746 ft.

MONTANA

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. T.D. 2,180 ft.; drlg. and U.R. 6⅝-in.

Glacier County

The Cut Bank field had five completions and two new operations.

The best completion was the Glacier Production Co.'s No. 4 Corrigeux, C SE SW Section 28-33n-5w, to the southeast of the town of Cut Bank, which swabbed 157 bbl. the first 24 hours at 3,066 ft., total depth, from the Cut Bank sand at 3,020-64 ft. The pay horizon was at 3,034-40 ft.

Castle-Pardee's No. 2 Tarrant Corrigeux, SE NE NE Section 2-33n-6w, was hardly commercial in the Cut Bank sand, but was shot with 100 qt. at 2,961-85 ft. in an effort to improve it. Total depth is 2,990 ft. It had a show of oil in the Cut Bank sand at 2,978-85 ft., the fluid rising only 75 ft. before the shot.

The Santa Rita Oil & Gas Co.'s No. 3 Rasmussen, C NW SE Section 32-33n-5w, had 800 ft. of oil in the hole from the Cut Bank sand at 2,924-60 ft., and swabbed 45 bbl. the first 24 hours at 2,985 ft., total depth. Main pay was at 2,955-60 ft.

Texas Co.'s No. 2 Unit 11, C SE NW Section 11-35n-6w, swabbed 45 bbl. the first 24 hours from the Cut Bank sand at 2,950-98 ft., after being shot with 10 and 50 qt. Main pay was at 2,988-98 ft., and total depth 3,000 ft.

Texas Co.'s No. 4 Tweedy, C SE NW Section 21-35n-6w, on the west side in what is known as the Lander pool, where some of the largest wells in the field have been completed in the Sunburst sand, swabbed 45 bbl. per day, initially, and pumped 29 bbl. in 16 hours. It had the Sunburst at 2,920-50 ft. and was drilled to 2,957 ft., the last 7 ft. being in red shale. The main pay was at 2,922-50 ft.

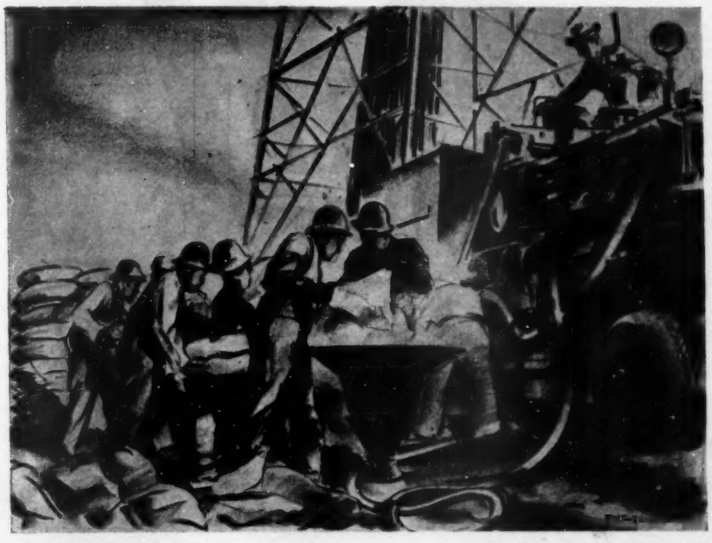
Santa Rita O. & G. Co.'s No. 3 Govt., NE SE NW Sec. 7-32n-5w. R.O.G.; (first report).
Glacier Prod. Co.'s No. 1 Coburn unit, CSL NW NE Sec. 9-33n-5w. Loc.; (first report).
Glacier Prod. Co.'s No. 1 Yunck unit, 125 ft. S of CNL Sec. 2-34n-5w. Drlg. 855 ft.; Colo. 245 ft.; 10¾-in. at 286 ft.
R. C. Tarrant's No. 1 Butler, CEL NW SE Sec. 15-34n-6w. Drlg. 470 ft.
A. B. Cobb's No. 6 Walberger, SE SW SE Sec. 33-35n-6w. Cmtd. 7-in. on bttm. at 2,760 ft.; M.I. spudder to comp.
Santa Rita O. & G. Co.'s No. 5 Whetstone, C Lot 2, Sec. 27-35n-6w. Drlg. 2,500 ft.
R. C. Tarrant's No. 3 Hope, C NE Sec. 18-34n-5w. R.U.
Annand-Hutchings' No. 5 Federal Ld. Bnk., CSL NE SW Sec. 11-34n-6w. Drlg. 2,700 ft.
Texas Co.'s No. 8 Unit 9, C NW NE Sec. 9-32n-5w. Drlg. 1,605 ft.; Colo. 745 ft.; 10¾-in. at 773 ft.
Consolidated Gas Co.'s No. 3 State, SE NW SE Sec. 26-35n-6w. Drlg. 2,345 ft.
Glacier Prod. Co.'s No. 5 Bonnett, C NW SE Sec. 4-32n-5w. Drlg. 1,805 ft.
Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.

Pondera County

Ted Hawley's No. 3 State, NW SE SE Sec. 16-27n-4w. Drlg. 1,923 ft.

Toole County

The only completion in Kevin-Sunburst was Coolidge & Coolidge's No. 6-A State, SW NW NW Section 36-



The Cementing Crew — *from a lithograph by E. M. Schiwetz*

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36n-2w, which pumped 75 bbl. per day from the Sunburst sand at 1,494-1,535 ft., which is also the total depth. There were three new operations.

Superior Pet. Co.'s No. 13 Aronow, SE NW SW Sec. 12-35n-3w. Spdg.; (first report).
Enfield Oil Co.'s No. 2 Zachor, SW NW NW Sec. 20-35n-1w. Drlg. 40 ft.; (first report).
Black Labe Oil Co.'s No. 10 State, SW SE SE Sec. 16-35n-2w. Drlg. 200 ft.; (first report).
Coolidge & Coolidge's No. 7-A State, NW SW NW Sec. 36-36n-2w. T.D. 1,535 ft.; Sunb. 1,495-1,535 ft.; csg. trouble.
Adams-Hesla Oil Co.'s No. 2 McAdams, C SE SE Sec. 21-35n-2w. Drlg. 1,360 ft.
Big West Oil Co.'s No. 3 Ellingson, SW SE SW Sec. 14-35n-3w. T.D. 1,800 ft.; light sat. at 1,734-40 ft.; P.B. to 1,740 ft.; shot with 90 qt.
J. H. Agen's No. 2 Goeddertz, NE NW NW Sec. 23-35n-3w. Drlg. 1,508 ft.; T. Sunb. 1,474 ft.; S.O. and 250,000 cu. ft. gas.
Imperial-Craig Co.'s No. 2 Gause, C SE NW Sec. 18-35n-1w. T.D. 1,702 ft.; wtr.; P.B. to 1,650 ft. and acd.
Texas Co.'s No. 12 Bruins, SE SW SE Sec. 9-35n-2w. Drlg. 814 ft.
Twin Fields Oil Co.'s No. 1-A Govt., NW cor. Sec. 28-35n-3w. T.D. 1,732 ft.; rng. 7-in.
H. O. and C. D. Stock's No. 1-A Govt., SE NW SE Sec. 17-35n-2w. Drlg. 1,160 ft.
Casper T. Olen's No. 9 Engemoen, NW NE NW Sec. 14-35n-2w. T.D. 1,595 ft.; contact 1,572 ft.; P.B. to 1,584 ft.; and, 1,000 gal.; no results; may D.D.
Wm. Hanlon et al's No. 1 Merton Mortgage, C SW SE Sec. 6-27n-1w. Drlg. 1,590 ft.
O. A. Nepstand's No. 1 Hugi, NW SE NW Sec. 11-35n-3w. T.D. 1,825 ft.; cmtd. 7-in. at 1,675 ft.
L. J. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. Drlg. 860 ft.
S. V. Day's No. 1 Halter, C NE SE Sec. 17-35n-2w. Drlg. 1,385 ft.; Sunb. 1,358-80 ft.

UTAH

Daggett County

Mountain Fuel Supply Co.'s No. 1 Govt., SE NE NE Sec. 19-3n-24e. Drlg. 5,543 ft.

Indiana Field

(Continued from Page 58)

tion 2-2s-11w, drilling at 1,928 ft. W. J. Whitcomb's No. 1 Meade, SE SE SW Section 12-1s-10w, total depth 1,462 ft., fishing for liner (old well deepening). J. W. Chamberlain's No. 1 Shanahan, Donation 121-1s-10w, shot with 20 qt. at 1,641-44 ft., cleaning out.

Hall Edwards' No. 1 Maier, SE SE SE Section 14-3s-14w, drilling at 1,480 ft.; No. 3, SE NE SE Section 14, drilling at 375 ft.

S. M. Kernan's No. 1 Brown, C E½ NW SE Section 12-3s-9w, was drilling below 1,500 ft.

In Daviess County J. W. Cannon and others' No. 2 Evans, SW SE NE Section 8-2n-5w, Patoka sand at 624 ft., saturation at 624-26 ft., shut down for orders. Ben Ruble's No. 2 Walker, 280 ft. from north and 530 ft. from east lines of SE SW Section 4-2n-5w, drilling at 310 ft.

In Adams County R. W. Haugh will deepen No. 1 fee, 120 ft. from south and 360 ft. from east lines of NE NW Section 24-26n-14e, old total depth 1,117 ft., new objective 1,800 ft.

Spencer County

In Spencer County Kentucky Natural Gas Co.'s No. 1 Wirtheimer, C W½ SW SE Section 29-7s-6w, was completed in sand at 641-46 ft., a gas well, good for 519,000 cu. ft.

New operations in the county included Ben Davis and others' No. 1 Simms, 125 ft. from west and 250 ft. from south lines of SE Section 22-6s-7w, rigging up machine; O. F. Kelly and others' No. 1 Kincaid, C NW SE Section 28-7s-6w, drilling at 680 ft. in a hole full of water; Floyd Faucett and others' No. 1 Mackey, C SW SW Section 4-8s-6w, machine on the ground. L. M. Steele and others' No. 1 Eigleman, 100 ft. from west and 300 ft. from north lines of NE Section 22-7s-6w, spudded.

Hendrickson & others' No. 1 Williamson, C W½ SW NW Section 31-7s-6w, was a hole full of water at 895-905 ft., total depth, and was abandoned. Nash Redwine and others abandoned the location for No. 1 Reis, SW SW NE Section 1-7s-12w, and Ray Johnson abandoned the location for No. 1 Powell, NW SW SW Section 28-6s-7w.

Harry Sandler and others' No. 1 Keck, NE cor. SW NW Section 34-3s-14w, total depth 2,813 ft., flowed by heads, but no gage has yet been taken. Damron Brothers' No. 1 Boyd, NE cor. SW SE SE Section 30-7s-6w, sand at 940-42 ft., 150,000 cu. ft. of gas; no increase at 942-48 ft. At total depth of 948½ ft. the well flowed an estimated 1½ bbl. of oil per hour. It was shut in. Mecca Oil Co.'s No. 1 Seay, NW NW SW Section 32-7s-6w, total depth 917 ft. No shows below 620 ft. and the hole was to be plugged back to that level.

C. J. Williams' No. 1 Walker, NE NE NW Section 6-8s-6w, shut down at 880 ft. Blosser and Kentucky Natural Gas Co.'s No. 1 Harvey, NW cor. SW NW Section 4-8s-6w, sand at 622 ft., set 6-in. casing at 622 ft. Lambert and others' No. 1 Hodges, NW NW NE Section 5-7s-7w, shut down at 530 ft. Snell and others' No. 2 Biggerstaff, NE cor. SW SW SE Section 6-7s-7w, drilling at 275 ft.

In Perry County Louis Stamp's No. 1 Huck, NW NE NW Section 28-6s-3w, had water in Bethel sand at 740 42 ft. was abandoned.

In Warrick County L. B. Jackson's No. 1 Schumacher, NE NW NW Section 34-3s-8w, was drilling at 1,743 ft., after having topped Ste. Genevieve lime at 1,592 ft. and found a showing of oil at 1,716-17 ft.

In Fountain County Fountain Oil Co.'s No. 1 Glasscock, SE SE SW Section 2-18n-8w, shut down at 160 ft.

In Boone County N. M. Smith's No. 1 Marshall, NW NW NE Section 34-19n-2e, Devonian top at 215 ft., shut down at 450 ft.

In Jay County Petroleum Development Corp.'s No. 1 Binegar, NE cor. NW Section 29-24n-13e, shut down at 2,449 ft.; hole full of water.

In Jasper County Clapsaddle & Harris' No. 1 Allen, NE SE NE Section 34-32n-5w, Trenton lime top at 940 ft., water at 970 ft.; shut down at 1,100 ft.

In Newton County Vaughn and others' No. 1 Gacsp, SW SE SE Section 33-32n-8w, lime at 677-740 ft., shale at 740 ft.; shut down at 800 ft.; (corrected depth).

In Vanderburg County Vanderburgh Oil Corp.'s No. 11 Hornby, SE NW SW Section 33-5s-10w, Renault at 2,190 ft., hole full of water at 2,060-2,101 ft., underreaming 6-in. casing from 2,018 ft. to 2,198 ft. J. L. Drake was drilling at 260 ft. in No. 10 Effinger, SW SW NW Section 33-5s-10w.

In Pike County W. H. Neub and others' No. 1 Stone, SW NW NW Section 21-1n-7w, drilling at 962 ft.

In Greene County Commonwealth's No. 1 Tucker, NW cor. NE SE NE Section 16-6n-6w, drilling at 2,841 ft.

In Sullivan County T. B. Scott and others had machine in for No. 1 Mattox, SW NE NE Section 29-8n-9w.

In Putnam County C. L. Williams' No. 1 Cooper, SW SW SE Section 10-13n-4w, shut down at 1,490 ft., a hole full of water.

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Eastern Field Report

By STAFF CORRESPONDENT

Oriskany Sand Gas Test Will Be Drilled in a Wildcat Area

PITTSBURGH, Pa., June 17.—A location for an Oriskany sand wildcat has been made in Washington County, Ohio, by Columbian Carbon Co. on the Jesse C. Stollar farm, Section 32, Palmer Township. The surface elevation is 785.9 ft. There have been few deep wells in that part of Ohio, although one, No. 1 E. E. Knowlton in Independence Township, reached the Clinton sand. In this, there was about 36,000 cu. ft. of gas a day, after a shot, in the Oriskany sand.

In Jefferson County O'Day Oil Co. completed No. 12 J. M. Hook, Section 3, Cross Creek Township, in Berea sand at 1,285 ft., and it will make a 5-bbl. pumper.

In Licking County George Lacknett completed a gas well on the Perry White farm on the north side of the city of Newark in Clinton sand at 2,460 ft. It gaged 1,000,000 cu. ft. a day. In this township Rutledge & Mossholder completed a small gas well on the R. E. Pickett farm at 2,380 ft., Clinton sand, and it has a volume of 75,000 cu. ft. a day.

In Perry County Pure Oil Co. completed No. 1 Koehler & Koehler, Section 18, Clayton Township, in Clinton sand at 3,250 ft. It gaged 250,000 cu. ft. of gas and 25 bbl. of oil a day. In Section 17, same township, Preston Oil Co. completed No. 2 Joseph Griffith as a combination well making 2 bbl. of oil and 100,000 cu. ft. of gas a day. In Section 18, same township, Gas Producing Co. of Ohio completed No. 3 Mary E. Koehler in Clinton sand at 3,250 ft. and it is good for 2 bbl. of oil and 100,000 cu. ft. of gas a day.

In Section 27, Coal Township, Perry County, Preston Oil Co. drilled No. 1718 Sunday Creek Coal Co. through the Clinton sand to 3,737 ft., and it was dry.

In Cuyahoga County Benedum & Trees are rigging up on the Megurer lease in Mayfield Heights village, in the Newberg sand gas pool.

SOUTHWEST PENNSYLVANIA

In Morris Township, Greene County, Romney G. Rutan and others have a fair gas well in the test on the J. B. Carter farm with a total depth of 2,127 ft. and a gage of 1,407,000 cu. ft. a day. In this township, Hiawatha Oil Co. is drilling at 2,225 ft. on the Thomas Young farm.

In Monongahela Township, Greene County, the scene of two large Injun sand gas wells, John Ingraham and others are building rig on the Bliss Donham farm, and I. S. White and others are rigging up on the Norman Strosnider farm, in Wayne Township. In Richhill Township O. I. Dille and others are drilling at 945 ft. in No. 2 Madison Hughes. In Center Township J. B. Ornoff has reached 2,067 ft. in No. 3 on the Gregg L. Neel farm. On Chestnut Ridge in South Union Township, Fayette County, Peoples Natural Gas Co. is drilling at 4,088 ft. in No. 2 Piedmont Coal Co. New Penn Development Co. and William E. Snee have rigged up No. 2 Summit Hotel (Heyn), for deepening.

Mattie I. Scott and in Greene Township, A. V. Lewis and others, at 1,217 ft., in No. 1 Smith & Pethtel. In Wayne Township Waynesburg Home Gas Co. started drilling No. 1 W. A. Elms.

Armstrong County

In Kittaning Township, Armstrong County, H. C. Judson and others completed No. 1 W. J. Gray at 3,452 ft., Bradford sand, and it is good for 119,000 cu. ft. of gas a day. Here, same operator made a location for a test on the Robert Watterman farm, and Edward Young is drilling No. 1 Hugh Blair at 2,450 ft.

In Cowanshannock Township Peoples Natural Gas Co. is drilling No. 2 Lee Bell at 3,118 ft. T. W. Phillips Gas & Oil Co. is rigging up No. 5 G. W. Smeltzer. In Plum Creek Township William McCollins is spudding in No. 2 Add Reefer. In Red Bank Township John Wray and others are drilling No. 1 O. B. Geist at 3,150 ft. In Wayne Township R. C. Galbreath is drilling No. 2 John Dormire at 855 ft.

Indiana-Clarion-Westmoreland

In Indiana County T. W. Phillips Gas & Oil Co. is drilling the following: In Washington Township, No. 1 Louisa Black at 2,500 ft., and No. 1 Lavina Richard at 2,000 ft.; in Center Township, No. 1 R. & P. Coal Co. at 1,880 ft.; in Brush Valley Township, No. 1 Jesse A. Boyer at 1,084 ft.; in Armstrong Township, No. 1 Mary Henderson at 3,328 ft. Here, J. Cloid Rimis is down 150 ft. in No. 2 Perdon heirs. In Mahoning Township John Wray and others are fishing at 480 ft. in No. 1 King Shaffer, and Penn Wayne Gas Co. has started drilling No. 1 Elizabeth Foster.

In Clarion County T. W. Phillips Gas & Oil Co. is reaming at 880 ft. in No. 2 Boyles, in Monroe Township. In Porter Township Cottage Hill Gas Co. is drilling No. 1 E. M. Reitz at 1,025 ft., and T. A. Swartzfager and others' No. 4 C. A. Swartzfager at 225 ft.

In Westmoreland County Kiski Valley Gas Co. is drilling No. 1 J. F. Wolford, in Bell Township, at 1,075 ft. In Allegheny Township Hyde Park Foundry Co. is down 2,295 ft. in No. 1 Andrew Grinder. In Washington Township Peoples Natural Gas Co. is shut down for cracker in No. 2 A. J. Idings.

Washington-Fayette

In Somerset Township, Washington County, Equitable Gas Co. completed No. 3256 Ellsworth Collieries Co. at 1,424 ft., with the gas sand at 1,118-40 ft.; gas 1,120 ft.; Salt sand topped at 1,330 ft., and 554,000 cu. ft. of gas a day at 1,418 ft. In this township, this company is drilling No. 1 W. W. Wright at 926 ft., and in Amwell Township, No. 1 R. Foster at 1,906 ft.

In South Franklin Township, Washington County, F. K. Fowcett and others are drilling No. 2 J. C. and Anna Phelan at 585 ft. In Amwell Township R. W. Clovis and others are down 950 ft. in No. 2 W. S. McClenathan, and Arthur Shivers and others have rigged up No. 1 Frank Lyseck.

In Morris Township, Washington County, Conger and others have rig up for No. 1 W. E. Archer. In Blaine Township Washington Oil Co. is drilling No. 1 Vera K. Stine at 1,560 ft.

In Nicholson Township, Fayette County, Duquesne Gas Co. is drilling No. 1 I. Cover at 2,269 ft. In Menallen Township Wahler-Powers Oil & Gas Co. is down 1,435 ft. in No. 2 Shamrock Farms Co., with the Big Injun sand at 1,218-1,407 ft., and 15,000 cu. ft. of gas a day at 1,314-25 ft. In German Township J. H. Carneil has reached 1,407 ft. in No. 1 Marion Kurzankuski.

In West Deer Township, Allegheny County, Dwight Campbell and others are drilling No. 1 M. Sterling heirs at 1,782 ft., and Larkin and others' No. 2 C. H. Church at 1,700 ft. In Middlesex Township, Butler County, Larkin and others are below 2,770 ft., testing No. 2 G. Jeuther, and Waltman Brothers are drilling No. 1 W. A. Mahan at 1,730 ft.

Deep Tests

In Maryland New Penn Development Co., William E. Snee and others have reached 6,740 ft. on the Humberson farm on the Accident dome, in Garrett County. There has been no indication of the Tully lime or the Onondaga. At this location it is doubtful if the Tully is present.

On Laurel Ridge in Stewart Township, Fayette County, Pennsylvania, these operators and E. G. Mueller are drilling at 7,311 ft.

WEST VIRGINIA

Several oil wells were completed in West Virginia during the week. In Roane County E. C. Harmon and others completed No. 6 A. G. Hinzman in Harper district, at 1,790 ft., Salt sand, and it is good for 25 bbl. a day. O. H. Reed and others completed No. 2 M. J. Hughes at 1,690 ft., Salt sand, and it is showing 5 bbl. a day. L. L. Reed drilled No. 1 H. T. Westfall through the Salt sand to 1,690 ft. and it was dry.

In Pleasants County James B. Fell and others completed No. 2 Ralph Williamson heirs, in Union district, at 1,668 ft., Injun sand, and it gages 1 bbl. of oil and 40,000 cu. ft. of gas a day.

In Wetzel County J. H. Farrell & Co. completed a test on the A. G. Clavert farm in Proctor district, at 3,095 ft., with the Pittsburgh coal at 1,030 ft.; Gordon, 3,081 ft. It is good for 3 bbl. a day.

In Wood County Tri County Producing Co. completed No. 2 Dora McAtee, in Union district, at 859 ft., Cow Run sand, and it is good for 1 bbl. a day.

Gas Wells

In Boone County O. B. Cunningham and others completed deepening No. 1 J. H. Perdew, in Washington district, starting at 920 ft. The Big lime was at 1,155-1,355 ft., and gas gaging 784,000 cu. ft. a day before the shot, was found at 1,200-10 ft.

In Cabell County Merritts Creek Gas Co. completed a test on the P. J. Riley farm in Barboursville district at 3,038 ft. It produced 92,000 cu. ft. of gas a day from the Berea sand and Brown shale.

In Lincoln County E. J. Elkins completed No. 1 Scott Richardson, in Carroll district, at 2,213 ft. In the Big lime at 1,562 ft., there was a showing of 12 bbl. of oil a day but after acidizing it was exhausted. It had 68,000 cu. ft. of gas a day from the Berea sand after the shot.

In Tyler County the MD Oil & Gas Co. completed a gas well on the Z. M. Pierpoint farm in Centerville district, in Big Injun sand at 2,136 ft. It gaged 35,000 cu. ft. a day.

In Wayne County Meabon & Mills completed a well on the Lora Allen estate in Stonewall district, at 3,251 ft. It gaged 165,000 cu. ft. a day 24 hours after the shot.

Oriskany Gas Field

No wells were completed in the Oriskany gas field in Kanawha County. Several new locations were made. In Poca district South Penn Oil Co. located No. 2 J. E. Monk, 2,050 ft. north, 27½° east of No. 1, with a surface elevation of 895.14 ft. Godfrey L. Cabot, Inc., made locations for No. 2 Poca Coal & Land Co., elevation 863.97 ft. and No. 4 D. Holmes Morton, elevation 763.82 ft. Here, this operator is drilling No. 3 D. Holmes Morton at 3,450 ft.; No. 8 Putnam Co. at 250 ft.; No. 1 Ida P. Gibson and others at 2,700 ft.

In the Poca district Columbian Carbon Co. topped Corniferous lime at 4,893 ft. in No. 1 Joseph Hughart: is drilling No. 1 D. W. Taylor and others at 2,028 ft.; No. 1 Fay E. Hughart at 745 ft. United Gas Co. is drilling No. 4878 J. P. Bailey at 4,758 ft., and No. 4880 Allie Pritt and others at 1,609 ft. United Carbon Co. is drilling No. 830 O. B. Boggess at 1,510 ft., and No. 831 Mary E. Carney and others at 1,035 ft. West Virginia Gas Corp. is drilling No. 038 Elizabeth Thaxton and others at 4,916 ft., and No. 041 Samuel H. Fields at 1,610 ft. Poca Fork Oil & Gas Co.'s No. 1 Anna M. Jones is drilling at 1,375 ft.

New Locations

Boone County: Owens, Libby-Owens Gas Department's No. 16 Bull Creek Coal Land Co., Peytona district, elevation 942 ft.

Calhoun County: McCall Drilling Co.'s No. 1 Perry Shafer, Sherman district, elevation 854 ft. Elliott & Cain's No. 1 J. O. Miller, Sheridan district, elevation 730 ft.

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Among the Drilling

ED DE'ARMAN, drilling contractor of Tyler, Tex., has the contract for a wildcat test scheduled to start this week in Kaufman County, eastern Texas. It will be drilled for Ed Bateman, Fort Worth, Tex., and is reported located in the northeast corner of an 80-acre lease out of the General American Life Insurance lands, John Baker Survey. In the general area there have been several failures drilled during the past 2 years. It is contracted to the Woodbine sand.

A. Z. SKEETER, drilling contractor of Kilgore, Tex., has the contract for a 2,500-ft. wildcat test recently staked in Red River County, northeastern Texas. It will be drilled for Albert Wooley, Clarksville, and will be in the eastern part of the Elizabeth Smith Survey, about 2 miles from a test which showed some oil at the 2,100-ft. level several years ago.

HOUSH & THOMPSON are moving a rotary to the North Elton field, Allen Parish, coastal Louisiana, for Bell Oil Corp.'s No. 2 Bel estate. The well is southwest of the discovery well, and drilling is scheduled to be started by the first of the week. Harrison & Abercrombie's No. 1 Dixon, a Tertiary Wilcox test in the Shepherd area, San Jacinto County, Texas., was abandoned at a total depth of 8,820 ft. Two other operations are reported at the Greens Lake and Eola fields for Sun Oil Co., and Gulf Refining Co.

HELMERICH & PAYNE, Inc., Tulsa, is drilling a wildcat test for Texas Co. in extreme southeastern Cochran County, West Texas, which is attempting to link the vast Slaughter field of Hockley County with the Duggan area of Cochran County. The test is No. 1-F Mallett Land & Cattle Co., Labor 25, League 51, Scurry County School Lands Survey, about 4 miles southeast of production in the Duggan field and a similar distance southwest of production in the Slaughter field. It was drilling ahead below 4,190 ft. with rotary.

NICKLOS Drilling Co. is making a production test of the company's joint wildcat test in Acadia Parish, coastal Louisiana. The well was drilled jointly with Vicent & Welch on the McManus lease, and 6-in. casing was cemented at 3,536 ft. after an 8-minute drill-stem test at 3,525-35 ft. recovered two stands of oil and cut mud, and working pressure built up to 650 lb. In the Wax Bayou field, St. Mary Parish, contract was received from Texas Co. for No. 5 Wax Bayou. In the Erath field drilling has progressed below the 11,000-ft. horizon in Strake Petroleum Co.'s No. 1 Caldwell. Three operations are reported in the Villa Platte and Tepetate fields for Continental Oil Co. while another rotary is running for the same company in the Spring area, Montgomery County, Texas.

HARRY L. EDWARDS Drilling Co. has moved another rig to the Old Ocean field, Brazoria County, Texas, for Fidely Oil & Royalty Co.'s No. 1 Chenault. Contract was received from Harrison & Abercrombie for another well at Old Ocean, while drilling continues at the Bay City, Dickinson and Anse La Butte fields for Midstates Oil Co., Pan American Production Co., and Stanolind Oil & Gas Co.

NOBLE Drilling Co. received contract from Stanolind Oil & Gas Co. for two wells at the Alta Loma field, Galveston County, Texas. Both wells are located north and east of the discovery well.

DELTA Drilling Co., Tyler, Tex., has been awarded the contract for Shell Oil Co., Inc.'s long awaited wildcat test in Bowie County, eastern Texas. It will be No. 1 W. D. Hall, John Downey Survey, 4 miles northwest of Maud, in the east central part of the county. Large rotary rig is being moved from the H. S. Moss' No. 1 Venters, long shutdown wildcat test in Camp County. Shell announced that the wildcat would be carried to 6,000 ft. for a test of the Travis Peak series of basal Trinity.

ALLEN & MORRIS have three rigs operating in Nueces Bay offshore from the East White Point field, Texas, for W.R.R. Oil Co. and Sinclair Prairie Oil Co. Drilling was started on American Liberty Oil Co.'s No. 8 Bruni, a projected Wilcox test in the old Bruni field, Webb County, while in Calhoun County, the company is attempting to complete No. 1 J. J. Welder, a possible discovery well. In Refusio County the company is nearing the pay in Coronado Corp.'s No. 1 G. S. I-Rooke at La Rosa field. Two other operations are reported at the West Ranch and Agua Dulce fields for American Liberty Oil Co., and the Agua Dulce Oil Co.

CHRISTIAN-CARPENTIER Drilling Co. is preparing to test Joyce Richardson's No. 1 Marks, a wildcat located in the Ogburn area, Harris County, Texas. The well was drilled to a total depth of 7,248 ft. and 5½-in. casing was cemented at 7,128 ft. Several sands cored at intervals from

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6,400 to 6,900 ft. showed possible production on drill-stem tests.

MOHAWK Drilling Co. opened an important north extension to the Valentine field, La Fourche Parish, Louisiana, with the completion of No. 1 Dusson. The well was drilled jointly with T. G. Markley and flowed at the rate of 528 bbl. per day through a 12/64-in. choke. Total depth is 7,019 ft. with production from sand at 6,998-7,019 ft.

COASTAL Drilling Co. has moved a rotary to Victoria County, Texas, for John Mayo's No. 1 Goldman, a projected 6,000-ft. wildcat located southeast of the town of Inez.

BLAFFER Drilling Co. received contract for Pacific Irwin Oil & Gas Co.'s No. 1-B Keeran, a 7,500-ft. wildcat, about 12 miles south of Inez, Tex.

OSAGE Drilling Co., Oklahoma City, reports its No. 4 Elliott, Yoakum County, Texas, drilling in salt and broken anhydrite at 2,800 ft. and No. 2 Nelson drilling in red bed at 1,000 ft.

SUMMIT Drilling Corp., Tulsa, and community associates' No. 1 Cleer-B, in SE NE SW of Section 6-15-5e, in the Kendrick pool of Lincoln County, Oklahoma, was drilling at 3,270 ft. Summit Drilling Corp. and J. A. Padon, Tulsa, No. 1 Robert Arnold, in NW NE NW of Section 8-19-9e, northwest of Stillwater in Payne County, was waiting on casing after setting 108 ft. of 12½-in. casing.

JOHNSON-KEMNITZ Drilling Co., Oklahoma City, and McGraw Oil Co., Tulsa, No. 1 Godfrey-Neff, in SW SE NE of Section 14-6s-6e, near Madill, in Marshall County, Oklahoma, was waiting on results of an electrical survey after the hole was bottomed around 5,850 ft. in the Arbuckle, topped at 5,715 ft., with no shows. Oil stains were reported in the Oil Creek basal Simpson zone.

REESE Drilling Co., Tulsa, No. 1 Berryman, in NW SW SW of Section 36-11-8e, in the Cromwell area of Okfuskee County, Oklahoma, was rigging up rotary tools.

HELMERICH & PAYNE, Inc., Tulsa drilling firm, has the contract to drill a Wilcox sand wildcat test for Texas Co. in Section 5-11-10, about 1¼ miles northeast of Okemah, Okfuskee County, Oklahoma. Pay is thought to be about 4,000 ft. deep. Rotary tools are being moved in.

FERNDALE Drilling Co., Odessa, Tex., has contracted to drill a wildcat for Indian Territory Illuminating Oil Co. in Section 29-3n-16e, about 7 miles north of the Falls City pool in Richardson County, Nebraska, in an area that has been seismographed and core-drilled. It is a rotary-tool test.

AMERICAN Drilling Co. of Hobbs, N. M., has received a contract from Texas Co. for the drilling of 35 test wells on its holdings in the Vacuum field of Lea County, Southeast New Mexico.

DAVIS BROTHERS Drilling Co., Independence, Mo., has spudded with light rigs at wildcats being drilled in Nemaha County, Nebraska, in Sections 25-5n-14e and 8-5n-14e, for Sonken-Galamba Corp. of Kansas City. Heavier tools are being moved in for deeper drilling.

C. A. Porterfield, field superintendent for Johnson & Johnson; E. R. Kirkpatrick, Kirkpatrick Drilling Co., and Howard Boyer, L. E. Winningham, J. R. Edwards, C. H. Haulbaudt, crew members of Kirkpatrick Drilling Co., on location in the Victoria field, Victoria County, Texas

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California Field Report

California Is Drawing On Its Reserves; New Pools Needed

By

L. P. STOCKMAN

LOS ANGELES, Calif., June 17.—The California oil industry has reduced crude-oil reserves approximately 100,000,000 bbl. in the first 6 months of 1940 due to the failure to discover any major fields during the period. California prospectors are obliged to discover about 200,000,000 bbl. of new production annually to maintain current reserves. Last year discoveries, and revisions in older fields, increased reserves 254,645,952 bbl. above current production for that year of 224,354,048 bbl. but with only a few days remaining before the close of the first half of 1940 there does not appear to be any major discoveries in sight. The last major discovery in California was on June 11, 1939, more than a year ago, when Tide Water Associated Oil Co. completed the discovery well in the Strand field of Kern County. Since that time Western Gulf Oil Co. opened a field in the Paloma district of Kern County on August 23, 1939, but due to limited development its importance remains undetermined.

The drilling of locations at frequent intervals along definite lines of folding and shearing has resulted in many important discoveries in both the San Joaquin Valley and Los Angeles Basin in the past. Superior Oil Co. is drilling a wildcat on one of these intevals and this well, while it has not yet shown anything of unusual promise, may bear watching during the course of the next month or so. The well is No. 1 Brandt in Section 28-29-26, a little over 1 mile southeast of the Greeley field of Kern County. The Stevens sand was found absent and the bit is not yet deep enough to reach the Rio Bravo or Vedder sands, which have proved highly productive in the Greeley field to the northwest. This wildcat is important mainly because of production possibilities shown by one of three wildcats, No. 9 Kern County Land, in Section 3-30-26.

No. 9 Kern County Land of Superior Oil Co. and No. 1 Brandt are also important because of No. 12-6 Kern County Land of Standard Oil Co. about an equal distance southwest of the Greeley field in Section 30-29-26. No. 12-6 Kern County Land was originally completed as a relatively large flowing well in the Rio Bravo sand but gradually declined and finally went to water. This water trouble has never been corrected and there is some question as to whether No. 12-6 Kern County Land is the discovery well of a new field or an outpost in the Greeley field. Because of this, No. 1 Brandt of Superior Oil Co. is located in a favorable area.

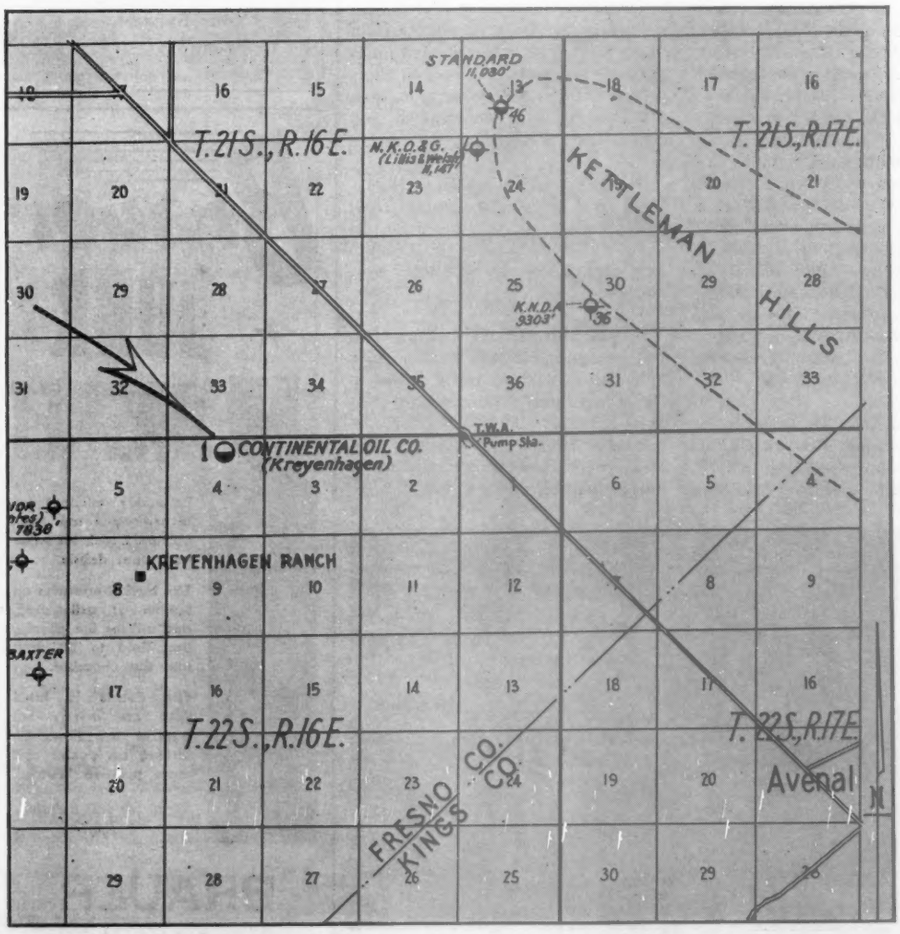
Current daily production of leading California fields follow:

	Barrels
Wilmington	86,250
Midway-Sunset	60,200
Kettleman North Dome	47,800
Long Beach	45,275
Ventura Avenue	34,825
Huntington Beach	27,550
Santa Fe Springs	27,250
Coalinga	27,150
Montebello	22,450
Santa Maria Valley	16,550

In the San Joaquin Basin No. 1 Southern Pacific of Texas Co., a wildcat in section 23-17-15 north of the Northeast Coalinga field of Fresno County, developed water trouble and does not look any too promising at present. Texas Co. is obligated to drill a second wildcat east of No. 1 Southern Pacific and early work is anticipated on what may prove to be a conclusive test of the Cantua district of Fresno County. Northeast of No. 1 Southern Pacific of Texas Co., the A. T. Jergins Trust is testing No. 1 Cheney for production and this well, in Section 29-14-13, and bottomed at 9,225 ft. but plugged back to 7,350 ft., does not appear to have sufficient gas pressure to result in a natural flow. The Jergins interests appear confident of developing production in No. 1 Cheney in the Cretaceous, and thought enough of showings to date to erect a gas trap and flow tanks. For this reason this well can not be charged off as unproductive. In the Pyramid Hills section of the San Joaquin Basin and across the Kern County line in Kings County, Tide Water Associated Oil Co. appears to have proved up the existence of an accumulation of heavy crude oil at a shallow depth. No. 1 West Slope in section which was drilled to 2,087 ft. as a structure-survey core hole and then plugged back to 950 ft., has been placed on steady production pumping 40 bbl. of 16.5-gravity oil cutting 4 per cent daily. Since completion of this well Tide Water Associated Oil Co. has re-entered No. 1 Pyramid fee in Section 18-24-18 which was bottomed at 587 ft. and will carry it down to the new productive zone. No. 1 Pyramid fee is west of No. 1 West Slope. Importance of the recent discovery of El Rey Oil Co. in the Athens-Rosecrans district of Los Angeles Basin is unknown and no further data will

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	June 9		June 2			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same year last year
Intercoastal-domestic—						
Crude oil	60,731	8,689	.....	.....	204,948	247,520
Fuel oil	.....	.....	.....	.....	188,938	884,491
Diesel and gas oil	.....	.....	.....	.....	.....	163,501
Gasoline	.....	.....	151,683	21,669	1,284,078	1,348,513
Kerosene	.....	.....	.....	.....	.....	122,200
Foreign exports—						
Crude oil	152,069	21,724	961,365	137,338	6,156,554	6,843,081
Fuel oil	335,126	47,875	223,093	31,870	3,720,645	3,895,079
Diesel and gas oil	191,166	27,309	121,131	17,304	2,924,315	2,786,985
Gasoline	47,717	6,817	47,723	6,818	2,157,357	3,486,996
Kerosene	5,418	774	93,851	13,407	549,298	653,290
Lubricants	.....	.....	.....	.....	79,134	42,034
Coastwise-domestic—						
Crude oil	55,142	7,878	260,074	37,153	4,212,806	5,569,272
Fuel oil	376,687	53,812	431,074	61,582	7,141,270	4,031,237
Diesel and gas oil	60,740	8,677	21,880	3,126	1,280,770	1,127,344
Gasoline	377,155	53,879	265,183	37,883	7,210,766	6,391,201
Kerosene	26,720	3,817	15,212	2,173	270,811	177,653



Continental Oil Co. has started a wildcat in the Jacalitos-Kreyenhagen section southwest of the Huffman section of the Kettleman North Dome field in Section 4-22-16 in Fresno County, California. Several anticlinal structures have been mapped in this area but no commercial production has been developed despite wildcat work extending over several years

be available until another well or two are drilled. Many conflicting factors enter any consideration of the importance of this discovery and no definite decision can be made.

Rio Bravo

Superior Oil Co. announced location for No. 1 Riggs in Section 21-28-25, in the extreme northwestern end of the Rio Bravo field, and work is scheduled to get under way early in July. This outpost will be C SW SW SW Section 21-28-25 and is of prime importance because if commercial production is secured Superior Oil Co. will be obliged to drill an offset on the Dillie property in Section 28-28-25, Western Gulf Oil Co. will have to drill on the Jack property in Section 21-28-25, Barnsdall Oil Co. may find it necessary to drill another offset on the Pottinger lease in Sections 29-28-25 and Union Oil Co. will be obliged to drill on the Crites lease in Section 20-28-25. No. 1 Riggs, therefore, will force the drilling of four wells if it results in commercial production. The Riggs lease is one of several 20-acre parcels in Section 20 and 21-28-26 and thus the competitive drilling conditions that operators have been afraid of may soon be in full swing. Every attempt has been made by operators interested in the Rio Bravo field to develop the productive area on the basis of one well to each 20 acres and to use staggered locations. Recent developments indicate that this procedure will be discarded in the northwest end of the Rio Bravo field as some of the 20-acre parcels under lease call for a minimum of two wells.

Superior Oil Co. in the Rio Bravo field completed No. 3-1 Osborn in Section 28-28-25 flowing 1,436 bbl. of clean 38.7-gravity oil and 1,820.000 cu. ft. of gas per day from the Rio Bravo zone with bottom of the hole at 11,450 ft. This well, in the northwestern end of the Rio Bravo field, topped the productive Rio Bravo sand at 11,210 ft. and is structurally high as the top of the pay was logged only 24 ft. lower than it was cored in No. 1 Ruddick in Section 28-28-25 which well is the highest well structurally in the field at the present time. The relatively small dip in a distance of about 2,000 ft. indicates the probability that both Sections 20 and 21-28-25 as well as almost all of Section 28-28-25 will lie within the productive limits of the Rio Bravo field. Only one dry hole has been drilled in this district, No. 1 Helbling, at the extreme eastern end of the field in about the center of Section 1-29-25. Faulting was noted in the log of this well which indicates the probability of a dominating fault extending in a northwest-southwest direction. There is some evidence to indicate that this fault cuts across the southern end of the Rio Bravo field in a northeast-southwest trend. The southeastern end of Rio Bravo and the northwestern end of the Greeley field are open with the limits still undefined There is a possibility that these prolific fields may later be found to be joined by a narrow neck.

Cole's Levee—Canal

Ohio Oil Co., in addition to completing No. 43-3 Kern County Land Lease 2-B in the Paloma field, completed No. 8-F Kern County Land in the Cole's Levee field and concluded a production test on No. 19-E Kern County Land in the Canal field in the San Joaquin Valley. No. 8-F in the Cole's Levee field was finished flowing 1,232 bbl. of clean 30.6-gravity oil and 1,450,000 cu. ft. of gas per day from the Stevens sand with bottom of the hole at 9,808 ft. This new well is producing from 389 ft. of formation as the 7-in. water string was cemented at 9,419 ft. and the liner consisted of 421 ft. of 4½-in. casing including 386 ft. of 100-mesh perforations. The well shows tubing and casing pressures of 450 lb. and 980 lb. respectively thus indicating that the well would be good for at least 2,000 bbl. per day on steady production. It is in Section 11-31-25 and should be followed into production by No. 9-F in Section 3-21-25 within another 10 days. In the Canal field of Kern County, Ohio Oil Co. swabbed No. 19-E Kern County Land but it failed to flow. It swabbed oil and water from 8,265 ft. effective depth with bottom of the hole at 8,307 ft.

Paloma

Ohio Oil Co. after a prolonged fishing job in No. 43-3 Kern County Land Lease 2-B in the Paloma field of Kern County completed the well, flowing at the rate of 1,900 bbl. of clean 52-gravity oil and 11,500,000 cu. ft. of gas per day from the equivalent of the Stevens sand with bottom of the hole at 10,361 ft. The crew was not successful in recovering all of the "fish" in this well, but sidetracked to 10,144 ft. after which the company ran in 191 ft. of 4½-in. liner including 151 ft. of 100-mesh perforated which was landed at 10,143 ft. Inasmuch as the 7-in. water string is cemented at 9,990 ft. the well is producing from 153 ft. of formation. Western

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

	June 9		June 2			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same year last year
Fuel oil	.....	.....	.....	.....	67,840	61,281
Diesel and gas oil	.....	.....	.....	.....	281,260	69,550
Asphalt	.....	.....	66,020	9,517	240,888	280,447
Lubricants	.....	.....	.....	.....	11,151	11,184
Foreign exports—						
Crude oil	.....	.....	.....	.....	1,598,957	2,539,831
Fuel oil	.....	.....	131,207	18,744	877,618	1,396,284
Diesel and gas oil	.....	.....	35,581	5,083	1,210,261	1,000,793
Gasoline	.....	.....	19,863	2,838	1,083,589	1,296,429
Kerosene	.....	.....	.....	.....	217,068	305,252
Asphalt	.....	.....	.....	.....	.....	6,919
Lubricants	.....	.....	64,750	9,250	258,437	285,653
Other finished oil	.....	.....	.....	.....	619	352
Coastwise-domestic—						
Fuel oil	122,358	17,480	119,383	17,055	2,632,770	2,530,053
Diesel and gas oil	30,267	4,324	20,255	2,894	509,243	447,241
Gasoline	151,806	21,687	126,720	18,103	2,977,995	3,281,212
Kerosene	18,110	2,587	14,286	2,042	267,739	314,963

Gulf Oil Co. which discovered the Paloma field late last year was still working on No. 74-3-A Kern County Land in Section 3-32-26 but should complete the series of production tests in the near future. In order to get a clear picture of the productive zone the company is perforating in stages to ascertain if any portion of the zone contains water. Work on No. 34-2 Kern County Land in Section 2-32-26 has been delayed pending the outcome of work on No. 74-3-A Kern County Land. Due to the development of mechanical trouble in No. 43-3

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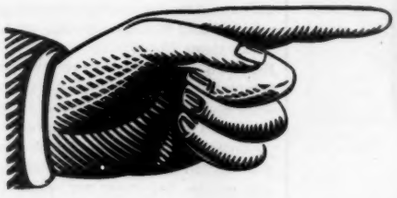

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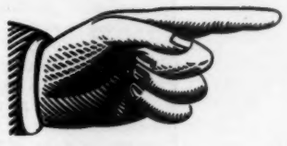

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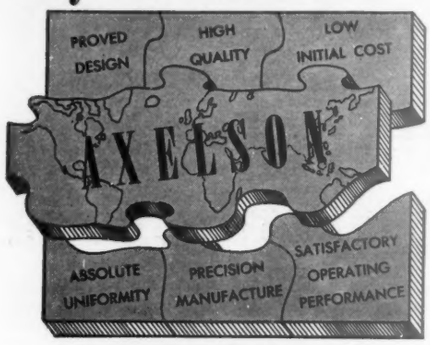

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SELLS AND SERVICES DEEP WELL PLUNGER PUMPS AND SUCKER RODS

Kern County Land Lease 2-B of Ohio Oil Co. and the fact that Western Gulf Oil Co. carried No. 74-3-A Kern County Land down for a deep test this field has only produced a limited amount of high-gravity crude oil up to date. No. 74-3-A Kern County Land was deepened to 11,216 ft. but upon failing to find the Vedder or Rio Bravo zone at this depth the well was accordingly plugged back to 10,706 ft. and the present series of tests undertaken. There are two wells producing in the Paloma field at present. These are the discovery well, No. 1 Panhandle of Western Gulf Oil Co. and the new well completed by Ohio Oil Co. as noted above.

Wilmington

Three Ranger zone wells and one Ford zone well were completed in the Wilmington field of Los Angeles Basin during the current week. The latter was No. 140 Offset of Union Pacific Railroad Co. which was brought in flowing 855 bbl. of clean 31.1-gravity oil per day from 5,369 ft. This well, which is along the west side of Ford Avenue and north of the Ford plant, was drilled with a butane outfit and made good time. It shows a tubing pressure of 400 lb. and a casing pressure of 850 lb. indicating that it is capable of greatly exceeding its established initial. Continental Corp. which is developing the Los Angeles County flood-control channel in the extreme east end of the field completed No. 6 L.A.C.F.C. in the Ranger zone flowing 640 bbl. of clean 17.2-gravity oil per day from 3,023 ft. This well, as has been done with previous completions on the lease, was bottomed beneath the flood-control channel by directional drilling. These wells are started from a long narrow strip along the west bank of the channel and are then whipstocked to the east below the surface. Vulcan Oil Co. completed a normal Ranger zone well this week when No. 2-W was brought in pumping 246 bbl. of fairly clean 15.6-gravity oil daily from 3,630 ft. Simon Bernstein's No. 16 Harbor also proved to be a good commercial well upon completion at 3,520 ft. as it showed an initial of 172 bbl. of 14.5-gravity oil daily. The Ford zone which is expected to be found highly productive in the Long Beach Harbor section of the Wilmington field is still being held in restraint and will not be developed for some time to come.

Los Angeles Basin

Shell Oil Co. completed an excellent flowing well in the Dominguez field when No. 104 Reyes was finished doing 842 bbl. of very clean 30.4-gravity oil and 643,000 cu. ft. of gas per day from 7,535 ft. The well which was carried down to 7,575 ft. was plugged back to the completion depth before being swabbed in. It is producing from 665 ft. of formation, the 7-in. water string having been cemented at 6,870 ft. About 1 mile west of the west end of the Dominguez field Wood-Mellon Oil Co. has cored some fair looking streaks of oil sand in No. 1 Wood but at 6,199 ft. it is still above the point at which the eighth Callender zone would occur. Southern California Petroleum Co. has recompleted No. 1 Rowena after deepening the hole to 7,735 ft. and returned it to production flowing 570 bbl. of relatively clean 32.6-gravity oil daily with 650,000 cu. ft. of wet gas. This well was originally completed at 7,465 ft. and the deepening job has greatly stimulated production.

EASTERN KENTUCKY

ASHLAND, Ky., June 17.—Ten new gas wells were reported by operators in eastern Kentucky fields in the past week. The completions and their 24-hour initial production of gas were as follows:

Virginia Gas & Oil Co.'s No. 1283 W. H. Blankenship tract, on Little Rockcastle, Martin County, total depth 1,594 ft., 1,391,000 cu. ft., from Maxon sand.

Columbian Fuel's No. GW-839 J. S. Cline land, on Compton Branch, Pike County, total depth 3,561 ft., 76,000 cu. ft., from Brown shale.

United Carbon Co.'s No. 822, Republic Steel land, on Dry Fork, Pike County, total depth 4,302 ft., 84,000 cu. ft., from shale; No. 823, Charley Ford, Tract 1, on Biggs Creek, total depth 3,923 ft., 119,000 cu. ft. from shale.

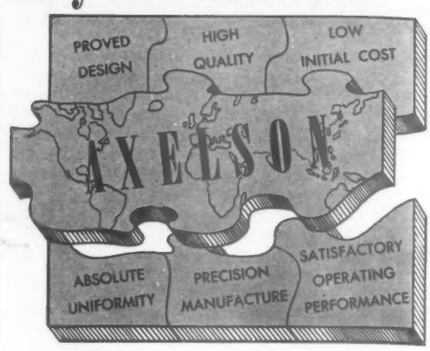
Hamilton Gas Co.'s No. E-17, Reuben Short tract, Right Fork of Troublesome Creek, Knott County, total depth 3,194 ft. in shale, 189,000 cu. ft.

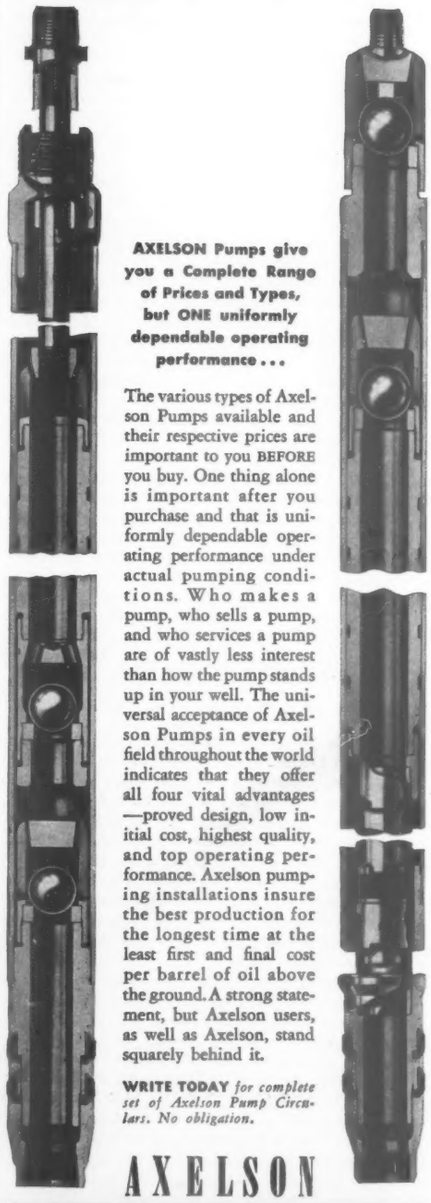
Willis and others' No. 2 Dempsey heirs, on Tug Fork, Martin County, total depth 2,812 ft., in shale, 119,000 cu. ft.

Floyd Fitch's No. 1 Smith heirs, on Birch Fork, Morgan County, total depth 700 ft., in Maxon sand, 700,000 cu. ft.

R. B. Gaither's No. 1 S. S. Roberts, on Lost Creek, Breathitt County, total depth 2,222 ft., in Corniferous lime, 46,000 cu. ft.

Only one name fits...





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SELLS AND *SERVICES* DEEP WELL PLUNGER PUMPS AND SUCKER RODS

Oklahoma Operations

By
DAL DALRYMPLE

Extend Wildcat Exploration; Open Dutcher Pool in Creek

Wildcat operations continue to expand in Oklahoma, several new tests of more or less significance being announced the past week. Field developments included completion of gas-pool openers in Pontotoc and Muskogee counties and several new producers in the Cement field, Caddo County.

Grady County, where major companies have assembled blocks of leases, claimed one of the new wildcats. It was M. S. and E. W. Murray's No. 1 Ramsey, NW Section 31-5-8w, west of the Chickasha field and south of the Cement field. It is on a block assembled by John S. and Paul J. Graham of Chickasha. Location is on a structure recently worked by Frederick G. Clapp and son, E. G. Clapp, geologists of New York.

Another of the new wildcats is in Okfuskee County, about 1¼ miles northeast of Okemah. It is Texas Co.'s No. 1 Cowan, SW cor. Section 5-11-10, on a block assembled by J. Hiram Tandy, Tulsa geologist and operator. Rotary rig is being erected. Helmerich & Payne, Inc., have the contract to drill to Wilcox sand.

Indo Oil Co. and others' No. 1 Slick, NW NW NW 1-16-9, wildcat south of the Heyburn area, Creek County, gave promise of opening a Dutcher sand pool. It topped sand at 2,919 ft., total depth 2,923 ft., and was reported to have gaged 1,250,000 cu. ft. of gas, with 70 bbl. of oil in 24 hours. Operators were cleaning out.

A shallow pool was opened in the West Francis area, Pontotoc County, at Kerlyn Oil Co.'s No. 1 Logan, NE cor. Section 26-5-6. It flowed 70 bbl. of oil, with 7,000,000 cu. ft. of gas, in 24 hours and was shut in It had Gilcrease sand at 1,680 ft., total depth 2,007 ft., plugged back to 1,901 ft. A second well 1 mile east of the discovery was near completion.

Wildcat Developments

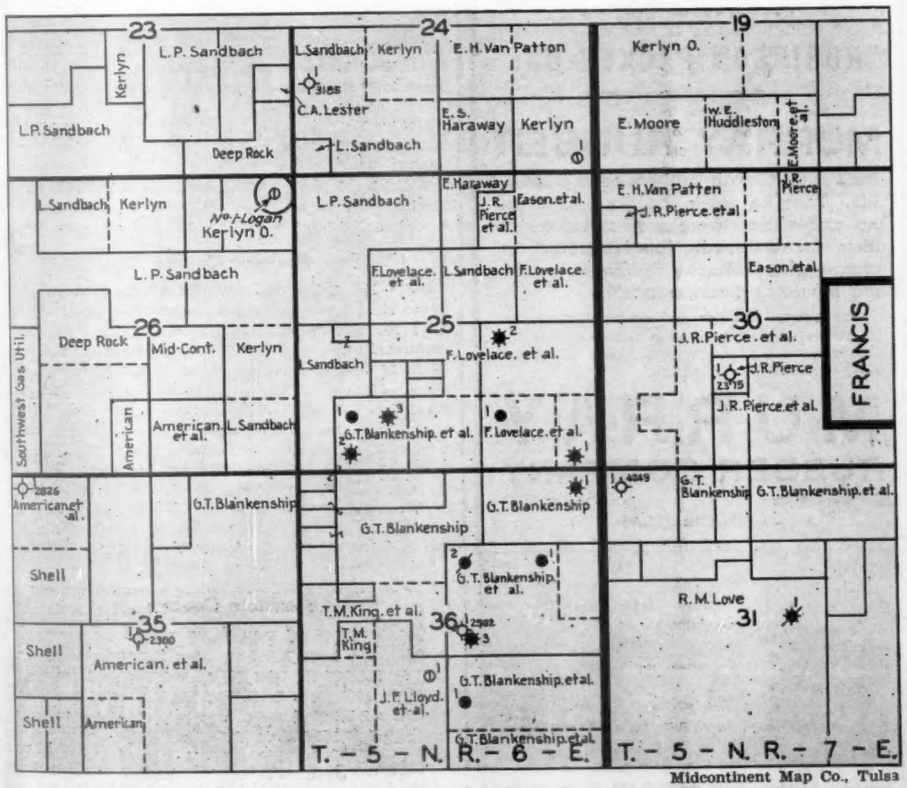
Yingling's No. 1 Newbern, NW NW SE Section 31-5-4, about 4 miles west of the Bebee pool, Pontotoc County, was completed for 11,000,000 cu. ft. of gas, with 750 lb. rock pressure. It had Cleveland sand at 2,010 ft., total depth 2,267 ft., plugged back to 2,050 ft.

Gulf Oil Corp.'s No. 1 Owens, NE NE NE Section 7-4s-15w, Tillman County wildcat, had Arbuckle lime at 4,025 ft. and was dry and abandoned at 4,232 ft. Jackson's No. 1 Marshall, SE NE NE Section 1-1s-6w, Stephens County, was temporarily abandoned at 2,575 ft., total depth. F. B. Murta and others' No. 1 Ashby, C W½ NE SE Section 4-10-6, Seminole County wildcat, topped Hunton lime at 4,259 ft. and was dry and abandoned at 4,270 ft. Cities Service Oil Co.'s No. 1 Sinnett, SE SE SW Section 14-20-4, Payne County wildcat, found Wilcox sand at 3,959 ft. and was dry and abandoned at 3,968 ft.

R. Garrett's No. 1 Escoe, SW SW SE Section 16-13-17. wildcat in Muskogee County, found sand at 1,630-60 ft., total depth, and gaged 2,500,000 cu. ft. of gas, with 400 lb. rock pressure.

Berry Brothers' No. 1 Evans, SE SE NE Section 17-10-5, Pottawatomie County, found Wilcox sand at 4,783 ft., total depth 4,792 ft., perforated Hunton zone at 4,577-4,602 ft., acidized, water intruded and it was abandoned. Kerlyn Oil Co.'s No. 1 Chitwood, NE NE SW Section 15-16-4w, Lincoln County, topped Wilcox sand at 6,578 ft. and was dry and abandoned at 6,698 ft.

Reese Drilling Co.'s No. 1 Berryman, NW SW SW Section 36-11-8, Okfuskee County, 2 miles east of the Cromwell pool, was a rig. Texas Co.'s No. 1 Cowan, SW SW SW Section 5-11-10, about 1 mile northeast of Okemah, Okfuskee County, dug cellar and pits. C. W. Garrett's No. 1 Rinehart, SE SE SE Section 15-13-17, some 2 miles north of Oktaha, Muskogee County, had rig on ground. Summit Drilling Co.'s No. 1 Arnold, NW NE NW Section 8-19-2e, about 3 miles northwest of Stillwater, Payne County, dug cellar and pits. Allen's No. 1 Freeman, SW SW SE Section 24-19-5, near Yale, Payne County, was a rig.



Midcontinent Map Co., Tulsa

A shallow sand pool west of Francis in northern Pontotoc County was opened at Kerlyn Oil Co.'s No. 1 Logan, Section 26-5-6. A second well is near competion in SE cor. Section 24

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended June 15, and for the preceding week, was as follows:

	Barrels	
	June 15	June 8
Allen	5,400	5,325
Billings	6,050	5,950
Burbank	7,200	7,050
South Burbank	8,500	8,450
Balance Osage	17,900	17,750
Blackwell district	3,600	3,550
Bristow-Slick	6,000	5,975
Chandler	1,175	1,150
Crescent	2,200	2,100
Cromwell	3,050	3,000
Cushing-Shamrock	9,450	9,400
Duncan	3,700	3,675
Edmond	4,375	4,350
Fish	3,300	3,225
Fitts	16,400	18,000
Jesse	2,200	2,225
Graham-Fox	2,275	2,250
Gray	800	750
Healdton	8,900	8,875
Hewitt	3,925	3,900
Keokuk	3,150	3,050
Konawa	1,200	1,150
Lucien	8,000	7,925
Moore	2,125	2,100
Northeastern counties	17,250	17,100
Oklahoma City	81,900	113,950
Olympic	2,200	2,150
Ramsey	3,850	3,800
Sasakwa	1,575	1,525
Sholem-Alechem	2,875	2,850
Seminole district:		
Bowlegs	7,000	6,925
Carr City	2,400	2,350
Dora	2,250	2,150
Earlsboro	4,300	4,225
East Earlsboro	2,100	2,050
South Earlsboro	575	550
Little River	6,900	6,750
East Little River	750	700
Maud	575	550
Mission	1,350	1,275
Seminole	7,300	7,250
East Seminole	1,350	1,200
Searight	2,225	2,100
Total Seminole	39,075	38,075
St. Louis-Pearson	29,500	29,150
Tatums-Tussy	2,250	2,250
Tonkawa-Garber-Thomas	4,000	3,950
Wewoka	1,950	1,800
Yale-Jennings	3,500	3,450
Other pools	85,850	84,125
Total Oklahoma	406,650	435,350

Oklahoma County

Phillips Petroleum Co.'s No. 8 Stiles, SW NW NE Section 34-12-3w, Oklahoma City field, pumped 986 bbl. of oil in 24 hours after a shot at 6,519-75 ft., and was completed. It topped Wilcox sand at 6,400 ft. and was bottomed at 6,575 ft.

Caddo County

Ohio Oil Co.'s No. 16 Pau-Kune, SW SW SE Section 3-5-9w, Cement field, Caddo County, topped Rowe sand at 3,364 ft., total depth 3,432 ft., perforated casing at 3,364-83 ft., flowed 313 bbl. of oil in 4 hours and made daily potential of 1,879 bbl.

Same company's No. 3 Marchand, SE SW NW Section 2-5-9w, an old well, was deepened from 5,433 ft. to sand at 6,250 ft., total depth 6,578 ft., perforated casing in the sand zone, flowed 83 bbl. of oil in 4 hours and made potential of 502 bbl.

G. L. Pace's No. 1 McClaren, NE NW NE Section 6-5-9w, set 5-in. pipe at 3,368 ft., was bottomed at 3,385 ft. and pumped 55 bbl. of oil in 24 hours.

Ray Stephens, Inc.'s No. 1 Zackary, SW NW SE Section 1-5-9w, was a cellar.

Rollins and others' No. 1-A Hedlund, SW SE NE Sec-

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tion 11-5-9w, found sand at 3,840-95 ft., swabbed 41 bbl. of oil in 4 hours and was completed for daily potential of 243 bbl.

Palmer's No. 3 Ulery, SE NW NE Section 34-6-10w, swabbed 164 bbl. of oil in 4 hours and made daily potential of 984 bbl. It had Rowe sand at 3,335 ft., total depth 3,383 ft.

Pottawatomie County

Elko Oil Co.'s No. 2 Hulsey, SE NE SW Section 26-7-4, St. Louis district, Pottawatomie County, found Wilcox sand at 4,374 ft., total depth 4,475 ft., plugged back and perforated casing at 4,200-4,350 ft., and pumped 60 bbl. of oil and 1,100 bbl. of water in 24 hours. Pioneer Drilling Co.'s No. 1 Miller, NW NE NE Section 32-7-4, had dolomite at 4,175 ft., was bottomed at 4,283 ft., acidized and pumped 189 bbl. of oil and 1,650 bbl. of water daily. Harwood's No. 1 Riddle, SW SE NE Section 29-7-5, was abandoned temporarily at 4,175 ft.

G. & M. Oil Co.'s No. 2 Pierce, NE NW NE Section 6-10-4, Shawnee pool, found Earlsboro sand at 4,484-99 ft., total depth, was shot and flowed 80 bbl. of oil in 24 hours. Same company's No. 1 Sauter, NE NE NW Section 6-10-4, had Earlsboro sand at 4,483 ft., total depth 4,528 ft., plugged back to 4,512 ft. and pumped 26 bbl. of oil and 200 bbl. of water daily. George Butcher's No. 1 Taylor, SE NE NE Section 35-10-4, West King area, had a junked hole and was abandoned at 4,237 ft. Woodford shale was topped at 4,120 ft.

S. A. Vierson's No. 1 Greenlee, NW SW SW Section 26-6-4, was drilling below 2,340 ft. Butcher's No. 1-A Taylor, SE NE NE Section 35-10-4, dug cellar and pits.

Creek County

Tibbens' No. 4 Harry, SW NW NW Section 9-14-10, Creek County, had Simpson zone at 3,191 ft., Wilcox sand 3,238 ft., total depth 3,263 ft., plugged back to 3,217 ft., was shot at 3,117-3,217 ft., and flowed 227 bbl. of oil in 24 hours. Lease Investment Co.'s No. 4 Darko, NE NW NW Section 28-14-10, flowed 150 bbl. of oil daily from Dutcher sand at 2,787 ft., total depth 2,815 ft. Sinclair Prairie Oil Co.'s No. 40 Dacon, CNL SE SE Section 16-17-7, topped Bartlesville sand at 2,726 ft., total depth 2,834 ft., was shot at 2,780-2,830 ft., and pumped 10 bbl. of oil and 125 bbl. of water daily.

Okfuskee County

The largest Oklahoma producer of the week was completed in the Dill pool, Okfuskee County, at Seran's No. 4 Seran, NW NW NW Section 2-11-8. It topped Cromwell sand at 3,513 ft., set 7-in. casing at 3,510 ft., total depth 3,548 ft., and flowed 2,100 bbl. of oil in 24 hours.

Fleming's No. 1 McKinney, NW SW SE Section 18-10-11, West Weleetka area, had sand at 1,468 ft., total depth 1,500 ft., and gaged 18,000,000 cu. ft. of gas, with 450 lb. casing pressure.

Smith's No. 5-A Lavin, CSL SW NE Section 26-11-11, had sand at 2,375 ft. and was dry and abandoned at 2,408 ft.

Wells' No. 5 Scott, NW NE NE Section 25-10-11, was rigging up machine. Phillips Petroleum Co.'s No. 1 McMahon, NE NE NW Section 11-11-10, was a location.

Pontotoc County

Hall's No. 1 Hoskins, SW SW SW Section 26-5-4, Bebee field, Pontotoc County, topped Hunton lime at 2,311 ft., Viola lime 2,475 ft., total depth 2,500 ft., perforated casing at 2,310-13 ft., and flowed 789 bbl. of oil in 24 hours. Tubing was run to 2,310 ft., and it flowed 421 bbl. of oil daily through tubing. Bray's No. 1 fee, NW SE NW Section 25-5-4, had Viola lime at 2,557 ft., total depth 2,643 ft., was acidized and pumped 35 bbl. of oil in 24 hours.

New work in Pontotoc County: Harwell's No. 3 Summers, NW SE SE Section 26-5-4, drilling below 585 ft.; W. B. Pine's No. 2 Jeter, SE SW SW Section 26-5-4, cellar and pits; Texas Pacific Coal & Oil Co.'s No. 5 Hatcher, NE SE NW Section 30-5-5, total depth 2,382 ft., running casing.

Seminole County

Sinclair Prairie Oil Co.'s No. 3 Tewee, NW SW NE Section 14-7-6, Little River area, Seminole County, found sand at 3,158-67 ft., total depth, and swabbed 188 bbl. of oil in 23 hours. C. L. McMahon's No. 2 Burgess, NE NE NE Section 29-6-6, was bottomed at 3,688 ft., and gaged 27,800,000 cu. ft. of gas daily.

Southwestern Counties

Kerbow's No. 2 Alexander, SW SW SE Section 10-1n-20w, Altus field, Jackson County, set 7-in. casing at

1,410 ft., total depth 1,577 ft., pumped 11 bbl. of oil in 6 hours and pumped off. Kriss' No. 1-B Inklebarger, SE SW SW Section 3-1n-20w, pumped 5 bbl. of oil daily after setting 7-in. casing at 1,355 ft. and drilling to 1,461 ft. Kerbow's No. 5 Danona, SW NE NW Section 6-1s-19w, Tipton pool, set 7-in. casing at 2,550 ft., total depth 2,641 ft., and pumped 47 bbl. of oil in 24 hours.

S. & S. Oil Co.'s No. 2 School Land, SW SE SW Section 20-2n-10w, Lawton area, Comanche County, was dry and abandoned at 1,060 ft.

T. H. McCasland's No. 2 Slusher, CNL NE SE Section 28-3n-5w, Knox pool, Grady County, set 7-in. casing at 2,403 ft., total depth 2,536 ft., flowed 26 bbl. of oil in 24 hours, pumped 18 bbl. the next 24 hours. Same operator's No. 1-A Burke, SE SE NE Section 17-3n-5w, was dry and abandoned at 2,834 ft.

Matthews' No. 2 Inklebarger, SW SE SW Section 3-1n-20w, was drilling below 750 ft.

Miscellaneous Reports

Bryan Petroleum Co.'s No. 5 Zickafoose, CEL NW NE Section 23-20-9, Pawnee County, was dry and abandoned in Cleveland sand at 1,204-42 ft. Johnson Oil Refining Co.'s No. 2 Rich, CEL NE NW Section 28-20-9, had sand at 2,082 ft., total depth 2,112 ft., plugged back to 2,102 ft., was shot and pumped 9 bbl. of oil and 10 bbl. of water daily.

Patsy Oil Co.'s No. 3 Caldwell, NE SW NE Section 16-5-3e, Byars pool, McClain County, topped Viola lime at 3,558 ft., total depth 3,639 ft., was shot and pumped 35 bbl. of oil and 100 bbl. of water daily.

Daube's No. 1 Love-Johnson, SE NE NE Section 32-1s-3w, Carter County, had lime at 2,495 ft., total depth 4,150 ft., perforated casing at 3,746-75 ft. and 3,820-30 ft., and pumped 25 bbl. of oil daily. McGraw Oil Co.'s No. 6 Smith, NE NE NW Section 5-4s-3w, had sand at 1,010-94 ft., total depth, was shot and pumped 20 bbl. of oil in 24 hours.

LeFlore Oil & Gas Co.'s No. 33 Orr, C NE NW Section 9-6-22, Latimer County, was bottomed at 1,800 ft., shot at 1,613-1,713 ft., and gaged 500,000 cu. ft. of gas daily, with 375 lb. rock pressure.

Barnsdall Oil Co.'s No. 10 Osage, SE NE SW NE Section 11-24-10, Osage County, was completed for 60 bbl. of oil daily at total depth of 1,865 ft. Indian Territory Illuminating Oil Co.'s No. 470 Osage, NE NE SW Section 10-26-11, was bottomed at 1,894 ft., and gaged 260,000 cu. ft. of gas.

Crouch and others' No. 1-A Rumsey, NW SW NE Section 23-21-12, Tulsa County, was completed for 12 bbl. of oil daily at total depth of 1,306 ft.

Wilson and others' No. 1 Robson, SW SW SW Section 13-19-15, Wagoner County, was dry and abandoned at 1,362 ft.

Okmulgee County: Newman Brothers' No. 1-A Farmer, SE SE NW Section 17-14-11, total depth 2,456 ft., dry and abandoned. Shock and others' No. 1-A Douglas, NE NW SE Section 17-14-11, total depth 2,394 ft., pumped 108 bbl. of oil daily. D. A. Armstrong's No. 25 Rentie, NW NW SE NW Section 3-14-14, total depth 1,630 ft., pumped 20 bbl. of oil daily. J. E. Dow's No. 1-B Johnson, C S½ NW SW Section 12-14-14, total depth 600 ft., gaged 200,000 cu. ft. of gas. Selby Oil Co.'s No. 15 Flint, C S½ S½ SE NW Section 26-14-14, total depth 1,085 ft., pumped 15 bbl. of oil daily.

Utilities Gas Co.'s No. 1 Anderson, C SE SE Section 23-8-20, Haskell County, was rigging up machine. Royalty Oil Co.'s No. 1 Cargill, C NE SW Section 9-13-6, Lincoln County, was a machine. Atlantic Refining Co.'s No. 1 Kint, NW NE SE Section 23-17-2e, Lincoln County, dug cellar and pits. D. W. Malernee's No. 1 Eaton, SE NE SW Section 23-17-2e, Lincoln County, dug cellar and pits. Tide Water Associated Oil Co.'s No. 1 Osage, C S½ S½ NE Section 26-26-4, Osage County, was drilling below 1,000 ft. Magnolia Petroleum Co.'s No. 5 Osage, SW NE SW Section 14-26-6, was a location. Phillips Petroleum Co.'s No. 71 Billings Unit, SW SW SW Section 22-23-2w, Noble County, was a location.

Illinois Fields

(Continued from Page 58)

timated). R. J. Jennings and others' No. 1 Mossiman, SE SW NW Section 22-4n-5w, was dry and abandoned at 3,279 ft., 3 ft. in the St. Peter sand, which yielded only fresh water.

In Jasper County Pure Oil Co.'s No. 1 F. Albright, C E½ NE SE Section 28-6n-10e, was dry and abandoned at 2,971 ft. It had a small showing of oil in Fredonia lime pay at 2,798-99 ft. Pure Oil Co.'s No. 1 W. Kernicle A, C W½ NW NE Section 31-5n-10e, pay at 2,842-52 ft., acidized with 5,000 gal., pumped 19 bbl.

In Richland County Pure Oil Co.'s No. 1 Bauman, C E½ NE SE Section 12-4n-9e, McClosky lime at 2,926-41 ft., pumped 262 bbl. DeKalb Syndicate's No. 2 Schilling, SW SE SE Section 32-4n-9e, Cypress sand pay at 2,603-18 ft., casing perforated at 2,604-8 ft., not shot, pumped 216 bbl. of oil and 13 bbl. of water.

In Lawrence County Scott Gray's No. 3 Gray, C W½ SW Section 18-4n-10w, total depth 1,577 ft., plugged back to 1,331 ft. Kirkwood sand at 1,323-29 ft. yielded 225,000 cu. ft. of gas.

In McDonough County Lamoine Trust's No. 1 Cummings, NE NE NE Section 21-4n-4w of fourth principal meridian, shot with 50 lb. of dynamite in Hoeing sand at 472-77 ft., pumped about 10 gal. of oil and was abandoned.

In Wayne County Oil Well Drilling Co.'s No. 3 Hilliard, NE SE NW Section 34-1s-7e, McClosky lime at 3,282-88 ft., 2,000 gal. of acid, pumped 236 bbl. Roach & Voyles' No. 2 Milner, C W½ SW SE Section 33-1s-7e, McClosky lime pay at 3,265-69 ft. and 3,318-22 ft., acidized with 5,000 gal., pumped 8 bbl. of oil and about 7 bbl. of water in 51 hours. H. H. Weinert, Inc.'s No. 1 McPherson, NE NE NW Section 3-2s-7e, McClosky lime pay at 3,222-28 ft., 1,000 gal. of acid, flowed 485 bbl. in 16 hours.

In Clay County Pure Oil Co.'s No. 3 Hubble A, C W½ SE SW Section 33-2n-8e, McClosky lime at intervals at 3,023-80 ft., 5,000 gal. of acid, flowed 269 bbl. Pure Oil Co.'s No. 1 Barth-A, NE NW NE Section 5-1n-8e, McClosky at 3,000-12 ft., 5,000 gal. of acid, flowed 949 bbl.

In Hamilton County Kingwood Oil Co.'s No. 4 Wilson, SW NE SE Section 6-6s-7e, Cypress sand at 2,668-2,702 ft., not shot, pumped 504 bbl. Ohio Oil Co.'s No. 2 Wilson, NW cor. SW NE Section 6-6s-7e, Cypress at 2,692-2,716 ft., shot with 40 qt. at 2,707-23 ft., pumped 186 bbl.

In White County Jarvis Brothers' No. 1 Coale, SW SE SW Section 28-3s-9e, McClosky lime at 3,474-86 ft., 1,000 gal. of acid, pumped 113 bbl. of oil and 60 bbl. of water. Weinert's No. 3 Andrews-Miller, SW NW SW Section 20-3s-8e, Aux Vases sand at 3,222-38 ft., pumped 135 bbl. Fortner's No. 2 Colvin, NW NE SW Section 9-4s-14w, sand at 2,211-23 ft., not shot, pumped 164 bbl. Sun Oil Co.'s No. 2 Garner, SW SW SE Section 1-5s-10e, pay at 2,985-88 ft., flowed 100 bbl. Sun's No. 6 Greathouse, NE cor. NW Section 4, McClosky pay at 2,896-99 ft., flowed 150 bbl. Penn-Illinois Oil Co.'s No. 3 Pyle, C W½ SE NE Section 12-6s-8e, pay at 3,144-57 ft., 3,000 gal. of acid, pumped 85 bbl. W. C. McBride, Inc.'s No. 3 Green-Starr, NE SW NE Section 25-6s-8e, shot with 10 qt. at 2,523-33 ft., Hardinsburg sand, pumped 259 bbl. Exchange Oil Co.'s No. 8 Storms, SW cor. SE NW Section 14-6s-9e, in the Storms pool, Waltersburg sand shot at 2,264-69 ft. and 2,255-60 ft., pumped 180 bbl. of oil and 25 bbl. of water. Exchange Oil Co.'s No. 9 Storms, NW SE NW Section 14-6s-9e,

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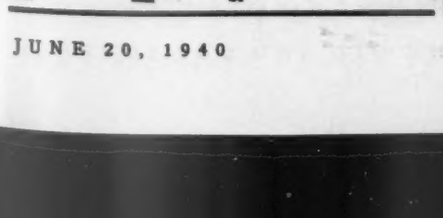

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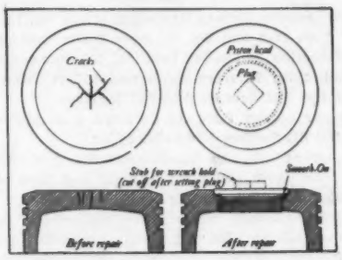

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In Edgar County Ebb Pearcy's No. 1 Sholem, NW SE SE Section 13-14n-14w, was dry and abandoned at 440 ft. Harry Dunn's No. 1 Weaver, SW NE NW Section 24-14n-14w, was dry and abandoned at 242 ft.

In Shelby County W. B. Johnson Drilling Co.'s No. 1 Schaffer, CWL NW NE Section 27-10n-5e, shot with 30 qt. at 1,946-61 ft., pumped 22 bbl. of oil and 56 bbl. of water.

In Wabash County Haynes & Wolfe's No. 1 Peach, SE SE SE Section 33-2n-13w, McClosky pay at 2,681-87 ft., pumped 8 bbl. of oil and 25 bbl. of water. Leighty's No. 1 Hahn, NE SW NW Section 8-1n-12w, Biehl sand at 1,516-42 ft., shot with 60 qt., pumped 160 bbl. Longhorn Oil Co.'s No. 8 Heil, SE cor. NW NW Section 18-3s-13w, Cypress sand shot with 40 qt. at 2,493-2,512 ft., swabbed 100 bbl.

In Clinton County Paul Mosebach's No. 1 Maddox, NW NE SW Section 4-1n-3w, Devonian lime 2,471 ft., total depth 2,528 ft., dry and abandoned. Mosebach's No. 4 Robben, NE SW SE Section 5-1n-3w, Devonian top at 2,427 ft., total depth 2,457 ft., acidized with 2,500 gal., pumped 157 bbl.

In Washington County Magnolia Petroleum Co.'s No. 1 Brink, NE SW NE Section 23-3s-3w, Benoist sand was shot with 4 qt. at 1,288-93 ft., pumped 4 bbl. of oil and 10 bbl. of water. Magnolia's No. 3 Koznsezk, SW SE NW Section 26-3s-3w, shot with 9 qt. at 1,277-83 ft., pumped 75 bbl. of oil and 10 bbl. of water.

New Wildcats

In Montgomery County Randall & Witt's No. 1 Street, 330 ft. from east and 7½ ft. from south lines of SW SW NE Section 31-11n-5w, location. Ed Solomon's No. 1 Carroll, 1,310 ft. from south and 557 ft. from east lines of the NE Section 3-8n-5w, location.

In Jasper County Pure Oil Co.'s No. 1 Bergbower-A. C E½ NE SE Section 16-6n-10e, cellar.

In Lawrence County Blackburn's No. 1 Kirkwood, 600 ft. from south and 1,240 ft. from east lines of the SE Section 2-3n-12w, drilling at 535 ft.

In Clinton County Schiermann and others' No. 1 Huelmann, SE cor. NE NE Section 20-1n-3w, drilling at 900 ft.

In Wayne County Rockhill's No. 7 Twist-A, SW NW SW Section 33-2s-7e, moving in rotary for a Devonian lime test.

In Monroe County Maroney's No. 1 Krause, C S½ NW SW Section 30-3s-7e, drilling at 880 ft.

In Wabash County Longhorn Oil Co.'s No. 2 Helm, 330 ft. from north and 1,050 ft. from west lines of the NE Section 23-3s-14w, drilling at 600 ft.

In Franklin County E. S. Adkins' No. 12 Old Ben Coal Co., SW SE NE Section 24-6s-1e, location.

In Hamilton County Kingwood Oil Co.'s No. 1 Henderson, NW NW NE Section 14-6s-6e, location.

North Texas Fields

(Continued from Page 63)

Wilbarger County

Lawson and others' No. 4 Waggoner W, 2,477 ft., dry; McMahon and others' No. 18 Waggoner B, 1,838-1,901 ft., 10 bbl.; E. P. Waggoner's No. 5 W. T. Waggoner C, 2,382-90 ft., 20 bbl.

Young County

J. P. Doss' No. 1 F. Morris, 564 ft., dry; J. E. McDonald's No. 1 J. P. Atchley, 1,005 ft., dry; Mitchell and others' No. 9 J. P. Dunagan, 923-41 ft., 14 bbl.

EASTERN TEXAS

DALLAS, Tex., June 17.—Four new wildcat locations led the activity of the week in eastern Texas. Most important of the locations was Shell Oil Co., Inc.'s long-awaited deep Trinity wildcat test in Bowie County, in extreme northeastern Texas.

As the week closed Shell was reported to be moving heavy rotary rig from the long shutdown test of H. S. Moss in Camp County to the Bowie County location for immediate spudding. Delta Drilling Co. of Tyler has the contract to 6,000 ft. for a test of the lowest Trinity members of Lower Cretaceous age. The test will be No. 1 W. D. Hall, in the John Downey Survey, 4 miles northwest of Maud in the central part of the county. The location is 467 ft. west of the west line of the H. L. Rachel 100-acre tract and 871 ft. north of the NE cor. of the G. A. Courtney 160-acre tract. The test is on a 5,000-acre block held by the Shell for several years.

In Delta County and northwest of the Sulphur Bluff field of Hopkins County, Partin & Skinner have staked location for their No. 1 W. C. Lomax, 400 ft. from the north and 920 ft. from the west lines of a 104-acre tract in the T. Jones Survey. Derrick is being moved to location for a Woodbine sand test.

Other Wildcat Locations

In Kaufman County Ed De'Arman of Tyler was reported preparing to move in rig for Bateman and others' No. 1 General American Life Insurance Co., J. Baker Survey, 6 miles west of Mabank. It is in the Tolosa area of southern Kaufman County and is in the vicinity of a series of tests drilled by H. W. McGee of Fort Worth. It is contracted to the Woodbine sand and will attempt to extend the trend of the Mexia fault system into Kaufman County. The location is about ½ mile southwest of a wildcat, H. W. McGee's No. 1 Rutland Savings Bank. The test was last reported shut down at 3,115 ft. after water broke in behind the casing while the crew was trying to complete the well.

Upshur County was given a new operation when H. C. McGahey staked No. 1 Ludie Turner in the northeastern corner of the county. It is 370 ft. from the south and 350 ft. from the east lines of a 200-acre tract in the A. Butler Survey. It is about 1¼ miles west of the river.

EAST TEXAS FIELD COMPLETIONS

(1-hour gages)

Gregg County—Longview Area

Stanolind Oil & Gas Co.'s No. 13 M. M. Custer, 3,553-54 ft., 30 bbl.

Gregg County—Kilgore Area

Gross-Schluman's No. 2 E. L. Walker, 3,722-27 ft., 10 bbl.

Rusk County—Joiner Area

Roasth-Genecov's No. 5 G. Curbo, 3,630-65 ft., 26 bbl. in 18 hours, pumping.

Upshur County—Longview Area

B. F. Phillips' No. 3 G. C. Cannon, 3,579-84 ft., 40 bbl. B. F. Phillips' No. 3 C. B. Everett, 3,584-58 ft., 40 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Angelina County

A wildcat, K. L. McHenry's No. 1 Redditt-Fairchilds dry and abandoned at total depth of 3,000 ft. A wildcat, Arkansas Fuel Oil Co.'s No. 1 Carter-Kelly, dry and abandoned at total depth of 4,015 ft.

Cherokee County

A wildcat, C. C. Lainer's No. 1 W. O. Reagan, abandoned location.

Franklin County

In the Talco field, Humble Oil & Refining Co.'s No. 1 J. C. Young estate, 4,251-98 ft., 625 bbl.

Rusk County

A wildcat, J. Z. Werby's No. 1 L. G. McMillian, dry and abandoned at total depth of 4,140 ft.

Titus County

In the Talco field, R. E. Moore's No. 1 Cecil and others, 4,293-98 ft., 578 bbl.

West Texas Fields

(Continued from Page 70)

most easterly northeast corner of the A. J. Smith Survey, Abstract 393, a mile east of the Brazos River. It is 2 miles south of the town of Pickwick.

In Brown County and a mile northeast of Elkins and 10 miles southeast of Brownwood, Frank Britton and associates have made location for a wildcat test on the J. Horace Fry land, Williams Survey 33. The operators have a 1,000-acre block in the area.

Callahan County's new operation was a 1,000-ft. wildcat started by C. D. Hagerty as his No. 1 T. Windham, 990 ft. from the north and 330 ft. from the west lines of SE Section 154, Block 3, G.H.&A. Survey.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Callahan County

In the Bowles field W. J. Murray's No. 6 Joe Evans, dry and abandoned at total depth of 2,160 ft. Wildcats, E. Johnson's No. 3 Hughes, Section 127, B B.B. &C. Survey, dry and abandoned at 894 ft. Redmond's No. 1 Moore, Section 9, Block 6, S.P. Survey, dry and abandoned at 1,955 ft.

Coleman County

In the Novice field States Oil Corp.'s No. 2 Morris, 3,584-3,611 ft., 240 bbl.

Comanche County

In the Amity field L. H. Choate's No. 1 Brashear, dry and abandoned at total depth of 589 ft.

Eastland County

A wildcat, Burton-Womack's No. 1 Collins, abandoned location.

Jones County

In the Sayles field Lewis Production Co.'s No. 2-D Sayles, 1,911-33 ft., 389 bbl. Condor Petroleum Co.'s No. 27 Sayles, 1,918-43 ft., 328 bbl.

In the Lewis field Omohundro's No. 4 Adams, 1,906-7 ft., 244 bbl. King Oil Co.'s No. 14 Carter, dry and abandoned at total depth 1,940 ft.

In the Guitar field T. D. Humphrey's No. 2 Triplett, 2,286-94 ft., 20 bbl. A wildcat, Fain-McGaha Oil Corp.'s No. 1 Swenson, J. McGrew Survey 245, dry and abandoned at total depth 2,410 ft.

Palo Pinto County

In the Carter field Echols & Echols' No. 1 Carter, dry and abandoned at total depth of 2,393 ft.

Shackelford County

In the Albany field A. P. Schkade's No. 1 fee, 533-35 ft., 1,500,000 cu. ft. gas. J. L. Hart's No. 9 Sanders, 578-87 ft., 41 bbl. J. L. Hart's No. 10 Sanders, dry and abandoned at 600 ft. Gallagher & Ratliff's No. 1 Lynch, dry and abandoned at 320 ft.

A wildcat, Palm's No. 1 Daniels, Section 16, E.T. Survey, dry and abandoned at 774 ft.

In the Sedwick field, Roark's No. 6 Hickman, 660-67 ft., 15 bbl. Grossenbacher's No. 6 Hickman, 660-67 ft., 23 bbl.

In the Moran field, Trammell's No. 1 Gillespie, dry and abandoned at 383 ft.

In the Jackson field Ungren & Frazier's No. 1 Jackson, 920-26 ft., 162 bbl.

In the Cook field, Roeser-Pendleton, Inc.'s No. 8-A-113 Cook, 1,576-88 ft., 251 bbl.

In the Ivy field, Humble Oil & Refining Co.'s No. 1 McCown, 3,155-82 ft., 112 bbl.

Stephens County

In the Loving field, Wittmer Oil & Gas Prop.'s No. 3 Loving, 3,450-75 ft., 46 bbl.

TEXAS PANHANDLE COMPLETIONS

(24-hour gages)

Carter County

Cities Service Oil Co.'s No. 36 Burnett, made 21,739,000 cu. ft. of gas daily from the Granite wash. Northern Natural Gas Co.'s No. 1 Fields, made 14,550,000 cu. ft. of gas daily from the Granite wash.

Gray County

Gayden Oil Co.'s No. 4 Archer, 3,190-3,285 ft., 285 bbl. Magnolia Petroleum Co.'s No. 11-C Cooper, 3,210-90 ft., 157 bbl. Skelly Oil Co.'s No. 109 Schafer, 3,218-95 ft., 495 bbl. Adams & McGaha's No. 4 Morse, 2,669-2,730 ft., 39 bbl., pumping.

Hutchinson County

Phillips Petroleum Co.'s No. 28 Perkins, 2,980-3,110 ft., 147 bbl. Texas Co.'s No. 11 Quinn, 2,960-3,064 ft., 357 bbl. Stanolind Oil & Gas Co.'s No. 13-B Watkins, 2,996-3,078 ft., 291 bbl. C. V. Hendren's No. 1 Whittenburg, 2,872-2,972 ft., 219 bbl. Huber Petroleum Corp.'s No. 1 H. W. Carver, made 10,500,000 cu. ft. of gas from the Granite wash.

Moore County

Phillips Petroleum Co.'s No. 1 Lovvorn, made 66,000,000 cu. ft. of gas daily from the Granite wash. Shell-Sinclair Prairie's No. 1 J. C. Catlett, made 53,000,000 cu. ft. of gas daily from the Granite wash.

Summary of Operations in All Fields for May

SUMMARY OF OPERATIONS

Rigs and Wells Drilling

	Comp.	Prod.	Dry	Gas
Eastern fields	581	1,156	23	64
Central Ohio	115	601	39	30
Indiana	43	985	26	5
Western Kentucky	28	590	14	0
Eastern Kentucky	17	92	0	8
Michigan	104	9,607	43	6
Illinois	401	220,079	58	0
Kansas	175	51,638	37	7
Oklahoma	180	19,656	74	7
North Cen. Texas	255	96,672	98	0
West Texas	147	120,117	9	1
Texas Panhandle	55	12,434	1	6
East Texas	24	968	3	0
East Cen. Texas	20	907	10	8
East Texas Border	6	225	3	1
Gulf Coast Texas	110	24,663	20	1
Southwest Texas	220	19,437	71	5
Arkansas	15	3,625	4	0
North Louisiana	51	4,110	7	6
Gulf Coast La.	92	21,040	19	1
Mississippi	30	6,935	18	0
Florida	1	0	1	0
Montana	26	2,780	3	2
Wyoming	12	8,612	3	0
Colorado	1	0	1	0
New Mexico	41	15,716	8	1
Total May	2,750	642,645	593	150
Total April	2,483	613,247	534	144
Difference	267	29,398	59	15

Wells Completed

	Rigs	Dlrg.	Ttl.
Eastern fields	74	571	645
Lima	0	3	3
Central Ohio	47	150	197
Indiana	7	62	69
Western Kentucky	1	60	61
Eastern Kentucky	7	31	38
Michigan	36	150	186
Illinois	83	458	541
Missouri	0	17	17
Nebraska	1	14	15
South Dakota	0	1	1
Arizona	0	7	7
Iowa	0	3	3
Kansas	39	247	286
Oklahoma	33	293	326
North Central Texas	134	299	433
West Texas	138	232	370
Texas Panhandle	45	149	194
East Texas	17	37	54
East Central Texas	4	32	36
East Texas Border	7	16	23
Gulf Coast Texas	25	103	128
Southwest Texas	34	175	209
Arkansas	6	31	37
North Louisiana	6	58	64
Gulf Coast Louisiana	25	129	154
Mississippi	6	35	41
Georgia	0	4	4
Alabama	1	7	8
Florida	0	5	5
Montana	7	48	55
Wyoming	12	69	81
Colorado	2	31	33
Utah	2	5	7
New Mexico	21	132	153
Total May	820	3,664	4,484
Total April	790	3,458	4,248
Difference	30	206	236

OKLAHOMA

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Atoka	0	0	0	0	0	2
Beckham	0	0	0	0	0	2
Caddo	12	636	8	0	2	20
Carter	6	389	0	0	2	6
Coal	0	0	0	0	0	2
Comanche	2	6	0	0	0	4
Cotton	1	0	1	0	0	1
Creek	18	663	5	0	3	27
Cleveland	0	0	0	0	0	1
Dewey	0	0	0	0	0	1
Garfield	2	15	1	0	0	1
Grady	2	413	1	0	1	2
Grant	1	0	1	0	0	1
Hughes	2	40	0	1	0	3
Jackson	10	713	3	0	0	6
Jefferson	2	50	1	0	0	1
Kay	2	0	2	0	2	3
Kingfisher	0	0	0	0	0	2
Kiowa	6	1,018	4	0	0	4
Latimer	1	0	1	0	0	0
Lincoln	3	332	1	0	0	5
Logan	0	0	0	0	0	3
McClain	1	0	1	0	1	1
Marshall	1	4,542	0	0	0	6
McIntosh	0	0	0	0	0	1
Muskogee	1	0	1	0	0	0
Noble	3	926	1	0	0	3
Okfuskee	11	1,924	3	0	1	7
Oklahoma	3	464	0	0	0	15
Okmulgee	9	144	3	1	2	8
Osage	3	27	1	0	2	13
Pawnee	6	407	3	0	1	11
Payne	5	916	2	0	0	4
Pontotoc	9	1,126	2	0	2	12
Pottawatomie	14	3,097	8	0	5	25
Seminole	19	1,628	7	1	3	19
Stephens	8	67	5	0	1	8
Tillman	1	0	1	0	0	5
Tulsa	3	0	1	2	0	12
Wagoner	13	113	6	2	0	10
Washita	0	0	0	0	0	1
Miscellaneous	0	0	0	0	5	35
Ttl. May	180	19,656	74	7	33	293
Ttl. Apr.	156	20,724	59	13	41	298
Difference	24	1,068	15	6	8	5

KANSAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Barber	1	943	0	0	0	3
Barton	23	8,709	2	2	6	26
Butler	3	80	1	0	3	10
Cloud	1	0	1	0	0	0
Coffey	1	15	0	0	0	0
Cowley	11	923	6	2	3	16
Douglas	0	0	0	0	0	1
Dickinson	0	0	0	0	0	1
Ellis	21	6,717	2	0	3	19
Ellsworth	15	6,147	4	0	1	15
Graham	1	956	0	0	0	1
Grant	0	0	0	0	0	1
Greenwood	10	233	3	0	1	14
Jefferson	0	0	0	0	0	1
Johnson	0	0	0	0	0	2
Kearny	0	0	0	0	0	1
Kingman	1	0	0	1	0	1
Leavenworth	1	0	1	0	0	0
McPherson	17	6,069	1	0	5	24
Marion	1	48	0	0	0	11
Ness	0	0	0	0	1	0
Pawnee	1	0	1	0	0	2
Phillips	0	0	0	0	0	1
Pratt	2	433	0	1	0	2
Reno	2	165	1	0	1	2
Rice	20	6,432	7	0	3	23
Rooks	1	0	1	0	1	5
Russell	30	11,344	3	0	9	48
Sedgwick	1	0	1	0	0	3
Stafford	8	2,399	1	0	2	13
Stevens	1	0	0	1	0	0
Trego	1	0	1	0	0	0
Woodson	1	25	0	0	0	1
Ttl. May	175	51,638	37	7	39	247
Ttl. Apr.	146	37,667	21	3	47	255
Difference	29	13,971	16	4	8	8

WEST TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Andrews	2	990	1	0	2	3
Crane	11	11,101	0	0	4	9
Concho	0	0	0	0	0	2
Brewster	0	0	0	0	0	1
Crockett	3	2,268	2	0	6	7
Dawson	0	0	0	0	0	1
Ector	50	42,947	3	0	40	39
El Paso	0	0	0	0	0	1
Gaines	10	7,906	0	0	10	16
Hockley	7	3,640	1	0	2	14
Howard	2	168	0	0	0	2
Hudspeth	0	0	0	0	0	2
Loving	0	0	0	0	0	2
McCulloch	0	0	0	0	0	1
Mitchell	1	223	0	0	0	3
Nolan	0	0	0	0	0	1
Pecos	12	5,438	2	0	28	20
Presidio	0	0	0	0	0	1
Reagan	0	0	0	0	1	0
Reeves	0	0	0	0	0	2
Schleicher	0	0	0	0	0	2
Scurry	2	148	0	0	7	12
Stonewall	0	0	0	0	0	1
Sutton	0	0	0	0	0	1
Terrell	0	0	0	0	0	2
Terry	1	828	0	0	1	2
Tom Green	1	25	0	0	0	2
Upton	2	2,936	0	0	3	4
Val Verde	0	0	0	0	0	1
Ward	7	2,339	0	1	1	11
Winkler	1	497	0	0	4	7
Yoakum	35	38,663	0	0	17	60
Ttl. May	147	120,117	9	1	138	232
Ttl. Apr.	204	164,325	14	0	64	253
Difference	57	44,208	5	1	74	21

SOUTHWEST TEXAS

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Agua Dulce	2	30	0	0	0	4
Adami	7	108	1	0	0	0
Ben Bolt	5	535	2	0	0	2
Bruni	0	0	0	0	0	1
Chiltipin	1	0	1	0	0	0
Casa Blanca	0	0	0	0	0	2
Chacon Lake	3	10	0	0	1	1
Carolina-Texas	1	10	0	0	0	0
Charco Redondo	1	0	1	0	0	0
Clara Driscoll	1	144	0	0	0	0
Carroll	0	0	0	0	0	1
Cedro Hill	8	222	0	0	0	3
Colorado	5	804	1	0	0	3
Comitas	1	30	0	0	0	0
Coleto Creek	1	60	0	0	0	1
Dale	2	274	0	0	0	1
Darst Creek	0	0	0	0	0	1
Driscoll	3	376	0	0	1	0
E. Flour Bluff	1	177	0	0	0	0
E. Bruni	1	5	0	0	0	0
E. White Pt.	10	1,396	1	0	3	9
Escobas	4	45	0	0	0	2
E. Plymouth	0	0	0	0	0	1
E. Premont	0	0	0	0	0	1
Elm Creek	6	19	1	0	1	5
Fagan	1	57	0	0	0	2
Glen	2	2,277	0	0	1	2
Hayden	1	0	0	0	0	1
Heyser	2	332	0	0	1	1
Hoffman	11	382	4	0	1	1
Kelsey	5	201	2	1	0	1
Keeran	0	0	0	0	0	1
La Rosa	2	0	1	1	0	3
La Reforma	0	0	0	0	0	1
Longhorn	1	75	0	0	0	1
Luling	1	75	0	0	0	1
Minnie Bock	0	0	0	0	0	1
Margo	1	0	1	0	0	1
McCampbell	14	1,334	1	1	2	7
McFaddin	1	126	0	0	0	0
Mirando Valley	1	0	1	0	0	2
Midway	1	50	0	0	0	2
Muralla	1	0	1	0	0	1
Oakville	2	483	0	0	0	0
Peters	1	0	1	0	0	0
Orange Grove	3	205	1	0	0	2
Piedra De Lumbre	1	0	0	1	1	0
Premont	6	183	1	0	0	5
Pearsall	1	616	0	0	1	0
Plymouth	2	297	0	0	0	1
Rancho Solo	2	75	1	0	0	0
Refugio	1	95	0	0	0	1
Robstown	1	144	0	0	1	0
Ricaby	5	51	0	0	0	1
Richard King	2	80	1	0	0	1
Riddle	0	0	0	0	1	0
Rincon	9	2,114	1	0	2	4
Salt Flats	2	0	2	0	0	2
Samfordyce	2	240	0	0	0	1
South Clara Driscoll	3	301	0	0	0	2
S. Alfred	3	380	0	0	1	3
Stratton	2	50	0	0	0	3
Sun	6	859	2	0	1	2
S. Calliham	0	0	0	0	0	1
S. Ricaby	1	51	0	0	0	0
Tarancahuas	1	264	0	0	1	1
Tomoconnor	3	2,005	0	0	0	1
Victoria	5	308	2	0	0	0
Volpe	3	54	2	0	1	3
Wade City	7	-1,109	0	0	2	8
W. Cole	2	40	1	0	0	2
White Creek	4	279	1	0	0	2
Miscellaneous	36	0	36	0	11	62
Ttl. May	220	19,437	71	5	34	175
Ttl. Apr.	187	12,666	75	4	29	159
Difference	33	6,771	4	1	5	16

WEST CENTRAL AND NORTH TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Archer	46	27,374	5	0	35	61
Brown	8	57	5	0	1	8
Baylor	2	0	2	0	2	4
Callahan	13	10	12	0	4	8
Clay	14	864	6	0	3	16
Coleman	3	40	2	0	1	6
Comanche	3	0	3	0	1	2
Cooke	17	3,369	5	0	13	11
Coryell	0	0	0	0	0	1
Denton	0	0	0	0	0	2
Erath	0	0	0	0	1	2
Eastland	2	20	1	0	0	5
Fannin	0	0	0	0	1	1
Fisher	0	0	0	0	0	1
Foard	1	0	1	0	0	0
Grayson	3	0	3	0	0	1
Hamilton	0	0	0	0	0	3
Hardeman	0	0	0	0	0	1
Haskell	1	0	1	0	0	1
Hood	0	0	0	0	0	1
Jack	7	1,912	1	0	8	13
Johnson	0	0	0	0	0	1
Jones	17	947	5	0	3	18
Montague	12	1,765	8	0	8	18
Palo Pinto	2	0	2	0	2	4
Parker	0	0	0	0	0	4
Runnels	0	0	0	0	0	4
Shackelford	13	1,027	7	0	2	6
Stephens	3	217	2	0	1	6
Tarrant	0	0	0	0	0	3
Taylor	2	0	2	0	0	4
Throckmorton	2	33	1	0	0	2
Wichita	59	26,632	12	0	33	50
Wilbarger	10	1,038	4	0	1	7
Young	15	31,367	8	0	14	25
Ttl. May	255	96,672	98	0	134	299
Ttl. Apr.	293	94,491	105	3	134	298
Difference	38	2,181	7	3	0	1

TEXAS GULF COAST

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Ace	0	0	0	0	0	1
Anahuac	3	1,960	0	0	1	2
Anchor	1	162	0	0	0	2
Bay City	2	229	0	0	1	2
Barbers Hill	0	0	0	0	0	1
Buckeye	0	0	0	0	0	1
Caplen	0	0	0	0	0	1
Cedar Point	1	0	1	0	0	1
Chocolate Bayou	2	268	1	0	0	0
Clear Lake	4	400	1	0	0	2
Clam Lake	0	0	0	0	0	1
Danbury	2	73	1	0	0	1
Dickinson	1	0	0	1	0	3
E. Bernard	1	40	0	0	0	0
Esperson	1	0	1	0	1	1
Fannett	1	82	0	0	0	1
Fairbanks	1	622	1	0	0	3
Francitas	1	152	1	0	0	0
Friendswood	2	1,269	0	0	1	1
Goose Creek	1	204	0	0	0	0
Greens Lake	0	0	0	0	0	1
Ganado	0	0	0	0	0	1
Hardin	0	0	0	0	0	2
Hastings	3	1,110	0	0	1	1
High Island	1	13	0	0	0	1
Hilje	0	0	0	0	0	1
Hull	1	393	0	0	0	0
Humble	0	0	0	0	0	1
League City	0	0	0	0	0	2
La Belle	3	0	0	0	0	1
Lolita	1	335	0	0	2	1
Lovells Lake	3	522	0	0	1	2
Manvel	1	480	0	0	0	1
Mackey	0	0	0	0	1	0
Martha	0	0	0	0	0	1
Mauritz	1	120	0	0	0	1
Old Ocean	2	516	0	0	1	7
Orange	1	136	0	0	1	2
Pickett Ridge	1	48	0	0	0	1
Port Neches	1	96	0	0	2	1
Rockland	0	0	0	0	0	1
Rosenberg	1	0	1	0	0	0
Saratoga	1	12	0	0	0	0
Seabreeze	0	0	0	0	0	2
Segno	3	1,522	0	0	1	3
Silsbee	1	491	0	0	1	0
Spindletop	1	89	0	0	0	0
S. Houston	2	397	0	0	1	0
S. China	0	0	0	0	1	0
Spurger	2	375	1	0	0	2
Sheridan	1	237	0	0	0	0
Sour Lake	1	66	0	0	0	0
S. Cotton Lake	2	395	0	0	1	1
Thompson	9	3,470	0	0	1	4
Tomball	2	207	1	0	0	1
Turtle Bay	1	0	1	0	0	0
Van Vleck	1	389	0	0	1	0
W. Beaumont	1	419	0	0	0	1
W. Ranch	12	5,406	1	0	2	11
W. Columbia	3	1,076	0	0	1	2
Withers	7	882	0	0	1	4
Miscellaneous	10	0	10	0	1	20
Ttl. May	110	24,663	20	1	25	103
Ttl. Apr.	106	22,487	25	6	21	111
Difference	4	2,176	5	5	4	8

GULF COAST LOUISIANA

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Abbeville	1	0	1	0	0	0
Anse La Butte	2	633	0	0	2	0
Bancroft	0	0	0	0	0	1
Barataria	1	0	1	0	2	1
Bateman Lake	1	129	0	0	0	0
Bayou Blue	1	0	0	1	0	2
Bayou des Allemands	0	0	0	0	1	0
Bayou De Gleize	0	0	0	0	1	0
Bay St. Elaine	0	0	0	0	1	0
Bayou Pigeon	0	0	0	0	1	0
Black Bayou	0	0	0	0	0	1
Caillou Island	1	0	1	0	0	2
Charenton	5	267	2	0	0	3
Choctaw	1	28	0	0	0	1
Chalkley	3	446	1	0	0	2
Chacahoula	0	0	0	0	0	2
Cheneyville	3	446	0	0	0	2
Cameron Meadows	0	0	0	0	0	1
Darrow	0	0	0	0	0	1
Delta Farms	0	0	0	0	0	1
Dog Lake	0	0	0	0	1	0
E. Baton Rogue	2	483	0	0	0	2
Eola	7	3,290	0	0	2	6
Edgerly	0	0	0	0	0	1
Erath	1	0	1	0	1	1
Fausse Point	1	62	0	0	0	2
Gibson	1	991	0	0	0	0
Grand Bay	2	845	0	0	0	3
Golden Meadow	16	2,299	1	0	3	10
Gillis	1	48	0	0	0	2
Garden Island	1	434	0	0	0	1
Grand Lake	3	841	0	0	0	2
Hackberry	2	996	0	0	0	4
Happytown	0	0	0	0	0	1
Horseshoe Bayou	1	0	1	0	0	0
Jeanerette	1	0	1	0	0	1
Jennings	3	300	1	0	0	3
Jefferson Island	0	0	0	0	0	2
Kenilworth	0	0	0	0	0	1
Lafourche Crossing	0	0	0	0	1	2
La Fitte	1	861	0	0	0	3
Lake Mongolois	0	0	0	0	0	1
Lake Pelto	0	0	0	0	0	1
Lake Salvador	0	0	0	0	1	0
Leesville	0	0	0	0	0	1
Neale	0	0	0	0	0	2
N. Crowley	1	795	0	0	0	2
N. Elton	0	0	0	0	0	1
New Iberia	5	438	2	0	1	2
Paradis	0	0	0	0	0	2
Port Barre	2	945	0	0	0	3
Plumb Bob	0	0	0	0	1	1
Potash	1	648	0	0	0	1
Quarantine Bay	0	0	0	0	0	2
Raceland	1	561	0	0	0	0
Sorrento	0	0	0	0	0	1
S. Roanoke	1	192	0	0	0	1
Starke	0	0	0	0	0	2
Sulphur	0	0	0	0	0	2
Sweet Lake	1	220	0	0	0	0
S. Jennings	1	0	1	0	0	3
Valentine	0	0	0	0	0	1
Vermilion Bay	0	0	0	0	0	1
Villa Platte	7	2,253	0	0	2	7
Venice	1	375	0	0	0	1
West Lake Verrett	1	192	0	0	0	0
West Cote Blanche	0	0	0	0	0	1
W. Gueydan	1	149	0	0	0	1
White Castle	1	356	0	0	0	2
Woodlawn	1	367	0	0	0	2
Miscellaneous	5	0	5	0	4	18
Ttl. May	92	21.040	19	1	25	129
Ttl. Apr.	96	24.243	21	2	34	126
Difference	4	3.203	2	1	9	3

EASTERN TEXAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Anderson	3	41	1	1	1	6
Angelina	0	0	0	0	0	3
Bowie	0	0	0	0	0	1
Camp	0	0	0	0	0	1
Cherokee	0	0	0	0	0	1
Falls	1	0	1	0	0	1
Fannin	0	0	0	0	0	2
Franklin	1	614	0	0	0	3
Freestone	0	0	0	0	1	3
Gregg	10	484	0	0	7	13
Henderson	1	0	1	0	0	1
Houston	6	0	0	6	1	3
Kaufman	0	0	0	0	0	2
Leon	1	0	0	1	0	1
Limestone	0	0	0	0	1	0
McLennan	1	0	1	0	0	0
Nacogdoches	1	0	1	0	0	0
Navarro	3	0	3	0	0	0
Rusk	4	24	2	0	5	11
Robertson	0	0	0	0	0	1
Smith	2	210	0	0	3	9
Titus	2	252	1	0	0	2
Upshur	7	250	1	0	2	3
Van Zandt	1	0	1	0	0	2
Ttl. May	44	1,875	13	8	21	69
Ttl. Apr.	44	4,194	7	2	27	65
Difference	0	2,319	6	6	6	4

TEXAS PANHANDLE

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Carson	10	2,176	0	0	4	15
Childress	0	0	0	0	0	1
Cottle	0	0	0	0	0	1
Deaf Smith	0	0	0	0	0	1
Dickens	0	0	0	0	0	1
Gray	16	4,526	0	0	15	63
Hall	0	0	0	0	0	1
Hutchinson	21	5,352	0	2	18	44
Moore	4	0	0	4	2	0
Motley	1	0	1	0	0	0
Ochiltree	0	0	0	0	0	1
Potter	0	0	0	0	0	1
Sherman	0	0	0	0	0	1
Swisher	0	0	0	0	0	1
Wheeler	3	380	0	0	6	9
Ttl. May	55	12,434	1	6	45	149
Ttl. Apr.	54	15,328	1	12	35	128
Difference	1	2,894	0	6	10	21

EAST TEXAS BORDER

County—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.
Bowie	0	0	0	0	0	1
Cass	1	0	1	0	0	2
Harrison	2	0	1	1	1	1
Marion—Rodessa	1	215	0	0	0	1
Marion—other	2	10	1	0	3	9
Sabine	0	0	0	0	1	0
Shelby	0	0	0	0	2	2
Ttl. May	6	225	3	1	7	16
Ttl. Apr.	3	50	0	1	4	20
Difference	3	175	3	0	3	4

*Gas production: Harrison County, 15,840,000 cu. ft.

ARKANSAS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Clark	0	0	0	0	0	4
Columbia	7	2,980	0	0	1	6
Dallas	0	0	0	0	1	0
Faulkner	0	0	0	0	0	1
Hot Springs	0	0	0	0	0	1
Howard	0	0	0	0	1	0
Lafayette	2	145	1	0	0	3
Lonoke	0	0	0	0	0	3
Miller—Rodessa	1	80	0	0	0	0
Miller—other	1	0	1	0	0	2
Nevada	0	0	0	0	0	1
Ouachita	1	100	0	0	0	2
Paluski	0	0	0	0	0	1
Saline	0	0	0	0	1	1
Seiver	0	0	0	0	0	1
St. Francis	0	0	0	0	1	0
Union	3	320	2	0	1	5
Ttl. May	15	3,625	4	0	6	31
Ttl. Apr.	16	3,780	4	1	4	28
Difference	1	155	0	1	2	3

NORTH LOUISIANA

Parish—	Comp.	Prod.	Dry	Gas*	Rgs.	Dlg.
Bienville	1	0	0	1	0	1
Bossier	2	275	0	0	1	1
Caddo†	26	1,300	2	1	2	27
Catahoula	0	0	0	0	0	1
Claiborne	0	0	0	0	0	1
De Soto	0	0	0	0	0	2
Grant	2	20	1	0	0	1
La Salle	8	1,545	1	0	1	10
Morehouse	1	0	0	1	0	1
Natchitoches	0	0	0	0	0	1
Red River	0	0	0	0	0	1
Sabine	5	60	2	0	0	5
Tensas	0	0	0	0	0	2
Union	3	0	0	3	1	2
Webster	2	910	0	0	1	2
West Carroll	1	0	1	0	0	0
Ttl. May	51	4,110	7	6	6	58
Ttl. Apr.	45	4,770	7	3	7	59
Difference	6	660	0	3	1	1

*Gas production: Bienville Parish, 56,480,000 cu. ft.; Caddo Parish, 1,000,000 cu. ft.; Morehouse Parish, 2,500,000 cu. ft.; Union Parish, 3,500,000 cu. ft.

†No Rodessa operations during May.

ALABAMA

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Choctaw	0	0	0	0	0	1
Greene	0	0	0	0	0	1
Houston	0	0	0	0	0	1
Lawrence	0	0	0	0	0	2
Marion	0	0	0	0	0	1
Mobile	0	0	0	0	1	1
Ttl. May	0	0	0	0	1	7
Ttl. Apr.	0	0	0	0	0	6
Difference	0	0	0	0	1	1

MISSISSIPPI

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Attala	1	0	1	0	0	1
Choctaw	1	0	1	0	0	1
Clarke	1	0	1	0	0	1
Copiah	0	0	0	0	0	1
Grenada	0	0	0	0	0	1
Hinds	1	0	1	0	0	1
Holmes	3	0	3	0	0	4
Humphreys	2	0	2	0	0	0
Issequena	0	0	0	0	0	1
Itawamba	0	0	0	0	0	1
Kemper	0	0	0	0	0	1
Lamar	0	0	0	0	0	1
Leflore	0	0	0	0	0	1
Madison	1	0	1	0	0	1
Monroe	1	0	1	0	0	1
Oktibbeha	0	0	0	0	1	0
Pike	0	0	0	0	0	1
Prentiss	0	0	0	0	0	1
Rankin	0	0	0	0	1	0
Scott	1	0	1	0	0	1
Sharkey	1	0	1	0	0	0
Smith	0	0	0	0	0	1
Stone	1	0	1	0	0	0
Tallahatchie	0	0	0	0	0	1
Warren	0	0	0	0	0	1
Washington	0	0	0	0	0	1
Wayne	1	0	1	0	0	0
Yalobusha	0	0	0	0	1	2
Yazoo	15	6,935	3	0	3	9
Ttl. May	30	6,935	18	0	6	35
Ttl. Apr.	24	9,795	11	0	6	36
Difference	6	2,860	7	0	0	1

FLORIDA

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Dade	0	0	0	0	0	1
Levy	0	0	0	0	0	2
Nassau	1	0	1	0	0	0
Suwannee	0	0	0	0	0	2
Ttl. May	1	0	1	0	0	5
Ttl. Apr.	0	0	0	0	0	6
Difference	1	0	1	0	0	1

EASTERN KENTUCKY

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Magoffin	0	0	0	0	0	2
Lee	2	15	0	0	0	2
Powell	6	73	0	0	0	1
Knott	0	0	0	0	5	3
Martin	5	4	0	4	0	4
Floyd	2	0	0	2	0	10
Elliott	0	0	0	0	0	1
Breathitt	0	0	0	0	0	1
Pike	2	0	0	2	2	4
Morgan	0	0	0	0	0	2
Wolfe	0	0	0	0	0	1
Ttl. May	17	92	0	8	7	21
Ttl. Apr.	12	4	0	11	7	23
Difference	5	88	0	3	0	8

WESTERN KENTUCKY

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Ballard	0	0	0	0	0	1
Breckinridge	0	0	0	0	0	2
Butler	3	20	2	0	0	3
Caldwell	0	0	0	0	0	1
Christian	0	0	0	0	0	2
Daviess	8	450	2	0	0	18
Hancock	4	35	2	0	0	7
Henderson	2	0	2	0	0	5
Hopkins	0	0	0	0	0	2
Logan	0	0	0	0	0	2
McCracken	1	0	1	0	0	0
McLean	1	0	1	0	1	1
Muhlenberg	1	0	1	0	0	0
Ohio	8	85	3	0	0	15
Todd	0	0	0	0	0	1
Ttl. May	28	590	14	0	1	60
Ttl. Apr.	32	478	21	0	2	55
Difference	4	112	7	0	1	5

ROCKY MOUNTAIN AREA

Colorado

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Adams	1	0	1	0	0	0
Boulder	0	0	0	0	0	1
Custer	0	0	0	0	0	1
El Paso	0	0	0	0	0	1
Fremont	0	0	0	0	1	1
Huerfano	0	0	0	0	0	7
Jackson	0	0	0	0	0	1
La Plata	0	0	0	0	0	1
Larimer	0	0	0	0	0	2
Las Animas	0	0	0	0	0	1
Logan	0	0	0	0	0	1
Moffat	0	0	0	0	1	5
Montezuma	0	0	0	0	0	1
Ouray	0	0	0	0	0	1
Park	0	0	0	0	0	1
Pueblo	0	0	0	0	0	1
Rio Blanco	0	0	0	0	0	3
Routt	0	0	0	0	0	1
Washington	0	0	0	0	0	1
Ttl. May	1	0	1	0	2	31
Ttl. Apr.	0	0	0	0	2	29
Difference	1	0	1	0	0	2

Montana

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Big Horn	1	0	0	1	0	1
Blaine	0	0	0	0	0	2
Carbon	0	0	0	0	1	3
Choteau	0	0	0	0	0	1
Fallon	0	0	0	0	4	0
Fergus	0	0	0	0	0	2
Glacier	9	977	1	0	1	13
Hill	0	0	0	0	0	2
Petroleum	0	0	0	0	0	2
Pondera	0	0	0	0	0	2
Toole	16	1,803	2	1	1	16
Miscellaneous	0	0	0	0	0	4
Ttl. May	26	2,780	3	2	7	48
Ttl. Apr.	14	1,568	0	0	4	50
Difference	12	1,212	3	2	3	2

Utah

	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Total May	0	0	0	0	2	5
Total April	0	0	0	0	2	5
Difference	0	0	0	0	0	0

Wyoming

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Albany	0	0	0	0	0	1
Big Horn	0	0	0	0	1	3
Carbon	1	0	1	0	0	5
Converse	0	0	0	0	1	3
Crook	0	0	0	0	1	1
Fremont	1	0	1	0	0	6
Hot Springs	0	0	0	0	0	3
Lincoln	0	0	0	0	0	3
Natrona	1	350	0	0	1	6
Niobrara	4	6,036	0	0	5	10
Park	1	1,800	0	0	2	3
Sublette	3	414	1	0	0	7
Sweetwater	0	0	0	0	1	4
Uinta	0	0	0	0	0	6
Weston	1	12	0	0	0	6
Miscellaneous	0	0	0	0	0	2
Ttl. May	12	8,612	3	0	12	69
Ttl. Apr.	12	6,505	1	0	13	62
Difference	0	2,107	2	0	1	7

New Mexico

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Chaves	0	0	0	0	0	2
De Baca	0	0	0	0	0	1
Dona Ana	0	0	0	0	0	2
Eddy	20	3,554	7	0	8	68
Lea	20	12,162	0	1	13	42
Luna	0	0	0	0	0	1
Otero	0	0	0	0	0	2
Roosevelt	0	0	0	0	0	1
Socorro	0	0	0	0	0	1
Bernalillo	0	0	0	0	0	2
McKinley	0	0	0	0	0	2
San Juan	1	0	1	0	0	4
San Miguel	0	0	0	0	0	1
Torrance	0	0	0	0	0	1
Valencia	0	0	0	0	0	2
Ttl. May	41	15,716	8	1	21	132
Ttl. Apr.	76	19,688	11	2	25	131
Difference	35	3,972	3	1	4	1

MICHIGAN

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Allegan	27	2,117	12	0	10	32
Arenac	0	0	0	0	0	4
Barry	2	0	2	0	0	0
Bay	1	0	1	0	0	0
Berrien	0	0	0	0	0	1
Calhoun	1	0	1	0	0	3
Cass	0	0	0	0	0	1
Clare	5	152	1	2	2	6
Genessee	1	0	1	0	1	1
Gladwin	0	0	0	0	0	4
Gratiot	0	0	0	0	1	1
Hillsdale	0	0	0	0	0	1
Huron	0	0	0	0	0	1
Ingham	0	0	0	0	0	1
Ionia	1	0	1	0	0	0
Isabella	11	2,672	2	0	6	10
Jackson	1	0	1	0	0	1
Kalamazoo	1	0	1	0	0	2
Kent	15	1,611	6	0	2	18
Lenawee	0	0	0	0	0	2
Mackinac	0	0	0	0	0	1
Manistee	0	0	0	0	1	0
Mecosta	0	0	0	0	0	1
Midland	0	0	0	0	1	4
Missaukee	1	0	1	0	0	1
Monroe	2	0	2	0	3	7
Montcalm	6	0	2	4	2	3
Muskegon	1	20	0	0	1	3
Newaygo	0	0	0	0	0	2
Oakland	0	0	0	0	1	0
Ogemaw	1	5	0	0	0	1
Osceola	0	0	0	0	0	2
Otsego	0	0	0	0	0	2
Ottawa	18	2,672	4	0	2	15
Roscommon	0	0	0	0	0	1
Saginaw	0	0	0	0	0	1
St. Clair	0	0	0	0	0	3
Shiawassee	1	0	1	0	0	3
Tuscola	0	0	0	0	1	3
Van Buren	8	358	4	0	2	8
Wexford	0	0	0	0	0	1
Ttl. May	104	9,607	43	6	36	150
Ttl. Apr.	96	9,726	33	0	38	145
Difference	8	119	10	6	2	5

INDIANA

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Daviess	0	0	0	0	0	2
Decatur	1	0	0	1	0	0
Dubois	1	0	1	0	0	0
Gibson	8	597	2	0	4	18
Hancock	1	0	1	0	0	0
Greene	0	0	0	0	0	2
Jasper	0	0	0	0	0	1
Jay	1	0	1	0	0	3
Knox	3	0	3	0	0	0
Lagrange	1	0	1	0	0	0
Madison	1	0	1	0	0	2
Marion	0	0	0	0	0	1
Newton	0	0	0	0	0	1
Owen	2	0	2	0	0	0
Pike	0	0	0	0	0	2
Posey	6	368	1	0	1	9
Putnam	0	0	0	0	0	1
Randolph	0	0	0	0	1	2
Spencer	12	20	7	4	1	9
Starke	0	0	0	0	0	1
Sullivan	4	0	4	0	0	0
Vanderburg	0	0	0	0	0	2
Vigo	1	0	1	0	0	0
Warrick	1	0	1	0	0	2
Boone	0	0	0	0	0	1
Floyd	0	0	0	0	0	1
Fountain	0	0	0	0	0	1
Huntington	0	0	0	0	0	1
Ttl. May	43	985	26	5	7	62
Ttl. Apr.	31	1,265	15	4	9	66
Difference	12	280	11	1	2	4

EASTERN FIELDS

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Bradford	308	462	0	0	24	255
Allegany	98	102	0	0	6	65
N. Oriskany	5	0	3	2	2	14
Middle Dist.	28	47	1	1	6	12
Butler-Armstrong	4	6	0	2	3	13
S.W. Pa.	30	60	6	22	7	39
S.E. Ohio	58	395	9	0	11	47
West Va.	50	84	4	37	15	126
Ttl. May	581	1,156	23	64	74	571
Ttl. Apr.	451	1,326	33	41	121	481
Difference	130	170	10	23	47	90

OHIO

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Allen	0	0	0	0	0	1
Ashland	1	0	0	1	3	3
Athens	10	5	4	5	5	11
Coshocton	3	112	2	0	0	1
Cuyahoga	0	0	0	0	2	2
Fairfield	1	10	0	0	0	2
Franklin	1	0	1	0	0	0
Guernsey	5	3	4	0	1	6
Henry	0	0	0	0	0	2
Hocking	1	20	0	0	2	0
Holmes	1	0	1	0	2	2
Jackson	1	0	0	1	0	1
Knox	1	10	0	0	4	9
Lawrence	2	0	0	2	2	3
Licking	12	18	2	8	6	18
Lorain	6	15	4	1	1	5
Mahoning	0	0	0	0	0	1
Medina	24	189	6	1	5	9
Meigs	3	2	0	3	1	5
Monroe	7	3	5	0	2	6
Morgan	3	18	0	1	0	2
Muskingum	3	20	0	2	0	5
Noble	9	9	4	0	2	12
Perry	8	141	1	1	4	11
Putnam	0	0	0	0	0	2
Stark	1	0	1	0	1	8
Summit	1	0	0	1	0	0
Tuscarawas	1	0	1	0	0	10
Wood	0	0	0	0	0	1
Washington	8	26	1	3	4	13
Wayne	2	0	2	0	0	2
Ttl. May	115	601	39	30	47	153
Ttl. Apr.	88	467	27	30	48	129
Difference	27	134	12	0	1	24

ILLINOIS

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.
Adams	0	0	0	0	0	1
Alexander	0	0	0	0	0	1
Bond	0	0	0	0	2	5
Brown	0	0	0	0	0	1
Bureau	0	0	0	0	0	1
Clark	2	30	0	0	3	8
Clay	2	0	2	0	1	3
Clinton	69	61,138	5	0	5	84
Coles	2	100	1	0	0	1
Crawford	2	25	1	0	1	5
Cumberland	0	0	0	0	0	2
De Witt	0	0	0	0	0	1
Edgar	0	0	0	0	0	4
Edwards	9	916	4	0	2	9
Effingham	0	0	0	0	0	1
Fayette	61	12,950	2	0	4	41
Ford	0	0	0	0	0	1
Gallatin	1	0	1	0	0	0
Hamilton	4	1,934	0	0	2	8
Iroquois	0	0	0	0	0	1
Jackson	0	0	0	0	0	1
Jasper	3	1,479	1	0	1	4
Jefferson	0	0	0	0	0	3
Knox	0	0	0	0	0	1
Lawrence	4	29	3	0	0	3
McDonough	1	0	1	0	0	2
Madison	0	0	0	0	0	5
Marion	146	124,915	11	0	43	146
Massac	0	0	0	0	0	2
Monroe	2	30	1	0	0	3
Montgomery	2	0	2	0	0	5
Peoria	0	0	0	0	0	1
Pope	0	0	0	0	0	1
Randolph	1	0	1	0	0	3
Richland	7	2,267	0	0	2	10
St. Clair	2	0	2	0	0	3
Schuyler	1	0	1	0	0	0
Shelby	2	0	2	0	0	4
Tazewell	0	0	0	0	0	2
Vermilion	0	0	0	0	0	1
Wabash	21	5,555	4	0	5	15
Washington	4	89	1	0	0	5
Wayne	17	3,970	4	0	5	21
White	35	4,652	7	0	7	36
Williamson	0	0	0	0	0	2
Fulton	0	0	0	0	0	1
Pike	1	0	1	0	0	0
Ttl. May	401	220,079	58	0	83	458
Ttl. Apr.	290	157,700	38	4	65	393
Difference	111	62,379	20	4	18	65

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.	T.	R.	Depth	Status—
Union Oil, No. 2 Austin, Dominguez, Los Angeles	29-	3-	13	7,470	flow. 1,394 b.d.
Union Oil, No. 3 Austin, Dominguez, Los Angeles	32-	3-	13	4,685	sd. sh. drlg.
Union Oil, No. 77 Callender, Dominguez, L. A.	29-	3-	13	2,962	sd. sh. drlg.
Union Oil, No. 14 Carson, Dominguez, Los Angeles	33-	3-	13	8,095	redrlg. 6,728
Shell Oil, No. 104 Reyes, Dominguez, Los Angeles	33-	3-	13	7,535	flow 840 b.d.
Shell Oil, No. 105 Reyes, Dominguez, Los Angeles	34-	3-	13	2,997	sd. sh. drlg.
Seaport Oil, No. 1 Dasteel, Dominguez, Los Angeles	32-	3-	13	8,209	O.S. drlg.
Wood-Mellon Oil, No. 1 West, Dominguez, L. A.	31-	3-	13	5,296	sd. sh. drlg.
Mission Oil, No. 1 Pierce, Rosecrans, Los Angeles	20-	3-	13	7,785	sd. sh. drlg.
National Oil, No. 1 Wolfe, Rosecrans, Los Angeles	20-	3-	13	2,996	sd. sh. drlg.
So. Cal. Pet., No. 2 Rowena, Rosecrans, L. A.	19-	3-	13	7,005	sd. sh. drlg.
St. Anthony Oil, No. 2 Gordon, Rosecrans, L. A.	19-	3-	13	4,998	sd. sh. drlg.
Kelly & Sons, No. 3 McMillen, Rosecrans, L. A.	19-	3-	13	2,997	sd. sh. drlg.
Union Oil, No. 42 Rosecrans, Rosecrans, L. A.	19-	3-	13	2,164	sd. sh. drlg.
Chicago Oil, No. 1 Founders, Rosecrans, Los Angeles	20-	3-	13	7,780	sd. sh. drlg.
Thorley Oil, No. 1 Athens, Rosecrans, Los Angeles	7-	3-	13	7,201	sd. sh. drlg.
Inca Oil, No. 1 Union, Rosecrans, Los Angeles	18-	3-	13	7,016	redrlg. 5,190
Federal Oil, No. 1 Smith, Inglewood, Los Angeles	7-	2-	14	6,702	idle
Bush Oil, No. 1 Sentous, Inglewood, Los Angeles	17-	2-	14	5,250	sd. sh. drlg.
Turf Oil, No. 1 H. R. A., Potrero, Los Angeles	34-	2-	14	8,446	P.B. 8,390
Parry, G. C., No. 1 Moynier, San Fernando, L. A.	6-	2-	14	2,098	sd. sh. drlg.
Tide Water A. O., No. 14 Porter, Aliso Canyon, L.A.	27-	3-	16	1,997	sd. sh. drlg.
Tide Water A. O., No. 15 Porter, Aliso Canyon, L.A.	27-	3-	16	4,460	sd. sh. drlg.
Tide Water A. O., No. 22 Porter, Aliso Canyon, L.A.	27-	3-	16	4,072	sd. sh. drlg.
Brit. Amer. Oil, No. 1 Perkins, Newhall, L. A.	14-	3-	16	5,870	sd. sh. drlg.
Creighton-Hammon Synd., No. 1 C-H, Newhall, L. A.	17-	3-	16	550	sd. sh. drlg.
Havenstrite, R. E., No. 1 Lincoln, Newhall, L. A.	16-	4-	17	1,190	sd. sh. drlg.
Barnsdall Oil, No. 9 R.S.F., Newhall, Los Angeles	27-	4-	17	7,120	flow 55 b.d.
Barnsdall Oil, No. 11 R.S.F., Newhall, Los Angeles	26-	4-	17	5,594	sd. sh. drlg.
Barnsdall Oil, No. 12 R.S.F., Newhall, Los Angeles	26-	4-	17	3,141	sd. sh. drlg.
General Pet., No. 2 P.E., Wilmington, Los Angeles	35-	4-	13	4,120	P.B. 3,790
Atlantic Oil, No. 16 Harbor, Wilmington, L. A.	33-	4-	13	2,794	sd. sh. drlg.
Barnhart & Morrow, No. 2 Comm., Wilmington, L.A.	32-	4-	13	3,410	O.S. drlg.
Bernstein, Simon, No. 16 Harbor, Wilmington, L. A.	35-	4-	13	3,520	flow 175 b.d.
Coast Line Oil, No. 1 Harbor, Wilmington, L. A.	32-	4-	13	2,930	sd. sh. drlg.
Continental Corp., No. 6 L.A.C.F.C., Wilm., L. A.	2-	5-	13	3,023	flow 650 b.d.
Dumm Bros. Pet., No. 6 Harbor, Wilmington, L. A.	32-	4-	13	3,210	sd. sh. drlg.
Hamarson Oil, No. 3 Harbor, Wilmington, L. A.	35-	4-	13	3,477	flow 150 b.d.
Long Beach Dev., No. 13-W Harbor, Wilm., L. A.	3-	5-	13	4,072	O.S. drlg.
Long Beach Dev., No. 14-W Harbor, Wilm., L. A.	10-	5-	13	4,006	O.S. drlg.
Power, E. D., No. 17 Harbor, Wilmington, L. A.	35-	4-	13	3,350	O.S. drlg.
Superior Oil, No. 1-B Island, Wilmington, L. A.	8-	5-	13	2,684	sd. sh. drlg.
Union Pacific R. R., No. 135 Wilmington, L. A.	4-	5-	13	5,610	pump 80 b.d.
Union Pacific R. R., No. 140, Wilmington, L. A.	4-	5-	13	5,369	flow 855 b.d.
Union Pacific R. R., No. 142, Wilmington, L. A.	3-	5-	13	3,990	sd. sh. drlg.
Union Pacific R. R., No. 143, Wilmington, L. A.	3-	5-	13	3,304	sd. sh. drlg.
Union Pacific R. R., No. 145, Wilmington, L. A.	3-	5-	13	3,825	completing
Union Pacific R. R., No. 146, Wilmington, L. A.	3-	5-	13	4,020	sd. sh. drlg.
Union Pacific R. R., No. 25-E, Wilmington, L. A.	3-	5-	13	4,037	sd. sh. drlg.
Vulcan Oil, No. 2-W Harbor, Wilmington, L. A.	32-	4-	13	3,630	pump 250 b.d.
Union Oil, No. 12 Sansinena, Whittier, Los Angeles	31-	2-	10	4,962	sd. sh. drlg.
Kern Oil, No. 28 Monterey, Montebello, Los Angeles	2-	2-	12	6,731	will deepen
Kern Oil, No. 3 1Monterey, Montebello, Los Angeles	2-	2-	12	7,865	tested wet
Kern Oil, No. 33 Monterey, Montebello, Los Angeles	2-	2-	12	7,730	will deepen
Kern Oil, No. 42 Monterey, Montebello, Los Angeles	2-	2-	12	5,994	sd. sh. drlg.
Kern Oil, No. 3 Taylor, Montebello, Los Angeles	2-	2-	12	7,790	completing
Chemical Oil, No. 1 Chemiculture, Montebello, L. A.	12-	2-	12	6,600	cleaning out
Mabee Co., No. 6 Mulholland, Montebello, L .A.	2-	2-	12	7,670	cleaning out
Montebello Oil, No. 2 Wallace, Montebello, L. A.	3-	2-	12	7,678	flow 1,000 b.d.
Mont. Reservoir Oil, No. 1 Mont., Montebello, L. A.	2-	2-	12	7,794	flow 350 b.d.
Standard Oil, No. 1 Kaufman, Montebello, L. A.	2-	2-	12	7,859	fish liner
Dormax Oil, No. 2 Signal, Long Beach, Los Angeles	30-	4-	12	5,342	redrlg. 3,998
Exeter Oil, No. 3 Olson, Long Beach, Los Angeles	19-	4-	12	4,597	cleaning out
Mitchell Oil, No. 1 R.B., Long Beach, Los Angeles	19-	4-	12	4,250	pump 100 b.d.
Bush. S. C., No. 3 Exchange, Long Beach, L. A.	30-	4-	12	2,448	sd. sh. drlg.
Tucker, H. M., No. 1 Heath, Buena Park, Orange	34-	3-	11	8,180	gr. sd. drlg.
Bartholomae Oil, No. 9 Stern, East Coyote, Orange	22-	3-	10	6,501	cleaning out
Standard Oil, No. 70 Emery West Coyote, Orange	24-	3-	11	1,181	sd. sh. drlg.
Southwest Expl., No. 29 State, Hunt. Beach, Orange	10-	6-	11	3,710	sd. sh. drlg.
Standard Oil, No. 41 Bolsa, Hunt. Beach, Orange	34-	5-	11	3,800	redrlg. 2,950
Surf Associates, No. 1 State, Hunt. Beach, Orange	10-	6-	11	1,891	sd. sh. drlg.
Termo Co., No. 409-4 State, Hunt. Beach, Onrage	10-	6-	11	4,719	redrlg. 2,390
Bolsa Chica Oil, No. 6 Wilson, Hunt. Beach, Orange	10-	6-	11	2,761	sd. sh. drlg.
Continental Oil, No. 3 Bixby, Seal Beach, Orange	11-	5-	12	4,775	redrlg. 2,997
Security L. & W., No. 1 Security, La Habra, Orange	9-	3-	10	1,898	sd. sh. drlg.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.	T.	R.	Depth	Status—
Cole, F. E., No. 1 Giacomini, Santa Maria, S. Barb.	24-	10-	35	4,806	pump water
Union Oil, No. 22 Squires, Santa Maria, S. Barbara	26-	9-	34	3,785	O.S. drlg.
Oil Group, Inc., No. 1 Hyland, Summerland, S. Barb.	16-	4-	26	2,940	sd. sh. drlg.
Petrol Corp., No. 3-15 Tognazzini, Gato Ridge, S. B.	15-	8-	32	2,900	br. sh. drlg.
El Rancho Oil, No. 4 Elkins, Shiells Canyon, Vent.	9-	3-	19	3,050	O.S. drlg.
Santa Clara Oil, No. 1 well, Shiells Canyon, Ventura	3-	3-	19	2,610	O.S. drlg.
Rio Hondo Oil, No. 1 Cosby, Hopper Canyon, Vent.	14-	4-	19	1,440	sd. sh. drlg.
G. E. Dev., No. 7 Hill, Hopper Canyon, Ventura	13-	4-	19	857	sd. sh. drlg.
Merchants Pet., No. 8 Cochran, Sespe, Ventura	1-	4-	20	2,392	sd. sh. drlg.
Continental Oil, No. 1 Grubb, San Miguelito, Vent.	24-	3-	24	1,987	sd. sh. drlg.
G. C. M. Oil, No. 32-B Hobson, Rincon, Ventura	8-	3-	24	298	sd. sh. drlg.
C. C. M. Oil, No. 34-B, Hobson, Rincon, Ventura	16-	3-	24	2,990	sd. sh. drlg.
C. C. M. Oil, No. 35-B Hobson, Rincon, Ventura	16-	3-	24	5,375	P.B. 5,135
Tide Water A. O., No. 7 V.L.W., Vent. Ave., Vent.	23-	3-	23	7,140	redrlg. 6,990
Tide Water A. O., No. 46 V.L.W., Vent. Ave., Vent.	24-	3-	23	7,250	sd. sh. drlg.
Tide Water, No. 17 McGonigle, Vent. Ave., Vent.	23-	3-	23	10,050	O.S. drlg.
Tide Water A. O., No. 116 Lloyd, Vent. Ave., Vent.	26-	3-	23	3,730	sd. sh. drlg.
Tide Water A. O., No. 22 Hartman, Vent. Ave., Vent.	22-	3-	23	8,761	hd. sh. drlg.
Tide Water A. O., No. 25 Hartman, Vent. Ave., Vent.	22-	3-	23	7,350	sd. sh. drlg.
Shell Oil, No. 117 Taylor, Ventura Ave., Ventura	21-	3-	23	8,790	O.S. drlg.
Shell Oil, No. 119 Taylor, Ventura Ave., Ventura	29-	3-	23	6,750	sd. sh. drlg.
Shell Oil, No. 120 Taylor, Ventura Ave., Ventura	29-	3-	23	5,521	sd. sh. drlg.
Cal. Alliance Pet., No. 1 Schmidt, Vent. Ave., Vent.	21-	3-	23	8,760	sd. sh. drlg.
British American Oil, No. 1 Barn., Vent. Ave., Vent.	22-	3-	23	8,405	sd. sh. drlg.
British American Oil, No. 10 Hart., Vent. Ave., Vent.	21-	3-	23	7,196	sd. sh. drlg.
Lloyd Corp., No. 5 Dabney, Ventura Ave., Ventura	24-	3-	23	7,280	sd. sh. drlg.
Standard Oil, No. 1 Rideout, Delano gas field, Kern	34-24-23			2,460	flow gas
North Kern Oil, No. 1 Ranch, Fowler, Kern	16-25-22			6,620	sd. sh. drlg.
Freda Oil, No. 3 Laymance, McKittrick, Kern	20-30-22			1,242	pump 60 b.d.
Hoyt, Otis, No. 1 Young, McKittrick, Kern	6-30-22			2,323	O.S. drlg.
Burrhus, V. E., No. 1 Front, McKittrick, Kern	30-30-22			2,760	sd. sh. drlg.
Belridge Oil, No. 7-1 fee, North Belridge, Kern	1-28-20			7,470	br. sh. drlg.
Belridge Oil, No. 10-1 fee, North Belridge, Kern	1-28-20			7,955	sd. sh. drlg.
Belridge Oil, No. 3-35 fee, North Belridge, Kern	35-27-20			8,400	redrlg. 7,098
Continental Oil, No. 4 Result, North Belridge, Kern	36-27-20			7,994	br. sh. drlg.
Tide Water A. O., No. 33-21 Bel., N. Belridge, Kern	21-27-20			5,530	br. sh. drlg.
Texas Co., No. 1 Theta, Shale Hills, Kern	12-28-19			3,660	sd. sh. drlg.
Bolling Oil, No. 1 Quinn, Jasmine, Kern	14-25-27			2,295	sd. sh. drlg.
Hall-Baker Co., No. 1 Villard, Mount Poso, Kern	18-26-28			1,967	dry; abd.
Hast Oil, No. 9 Kern, Kern River, Kern	34-28-28			410	O.S. drlg.
Kern Hills Oil, No. 1 Brown, Kern River, Kern	27-28-28			443	O.S. drlg.
Crestmont Oil, No. 3 Coffee, Round Mountain, Kern	8-28-29			1,415	pump 30 b.d.
Jergins Oil, No. 5-A McGowan, Edison, Kern	13-30-29			1,240	sd. sh. drlg.
Monterey Expl., No. 15 Shell-Huff, Edison, Kern	15-30-29			1,731	cleaning out
Monterey Expl., No. 8 Hershey, Edison, Kern	14-30-29			1,399	pump 152 b.d.
Gooden, Fred, No. 1 Needham, Edison, Kern	21-30-29			3,669	pump 140 b.d.
Universal Consd. Oil, No. 3 Cattani, Arvin, Kern	15-31-29			5,591	sd. sh. drlg.
Western Gulf Oil, No. 45-B, KCL, Fruitvale Kern	22-29-27			3,770	tested wet
Standard Oil, No. 5 Mushrush, Wasco, Kern	7-27-24			9,550	sd. sh. drlg.
Pacific Western Oil, No. 1 Meyer, Wasco, Kern	7-27-24			9,194	sd. sh. drlg.
General Pet., No. 5 Caldwell, Rio Bravo, Kern	35-28-25			7,497	sd. sh. drlg.
Union Oil, No. 56-34 KCL, Rio Bravo, Kern	34-28-25			9,690	sd. sh. drlg.
Union Oil, No. 63-34, KCL, Rio Bravo, Kern	34-28-25			11,230	O.S. drlg.
Superior Oil, No. 3-1 Osborn, Rio Bravo, Kern	28-28-25			11,450	flow 1,450 b.d
Superior Oil, No. 2 Roe, Rio Bravo, Kern	27-28-25			7,795	sd. sh. drlg.
Superior Oil, No. 2 Rudnick, Rio Bravo, Kern	28-28-25			4,788	sd. sh. drlg.
Superior Oil, No. 1 Moore, Greeley, Kern	12-29-25			367	sd. sh. drlg.
Superior Oil, No. 1 Brandt, Greeley, Kern	28-29-26			10,099	hd. sh. drlg.
Standard Oil, No. 11-22, KCL, Greeley, Kern	18-29-26			10,298	sd. sh. drlg.
Standard Oil, No. 12-9, KCL, Greeley, Kern	7-29-26			9,783	sd. sh. drlg.
Standard Oil, No. 12-10, KCL, Greeley, Kern	7-29-26			7,765	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe-line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracked.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel-line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

General Pet., No. 1 Wallace, Greeley, Kern	1-29-25	5,070	sd. sh. drlg.
Shell Oil, No. 8-19-A, KCL, Ten Section, Kern	19-30-26	7,680	sd. sh. drlg.
Shell Oil, No. 21-30-A, KCL, Ten Section, Kern	30-30-26	5,905	sd. sh. drlg.
Shell Oil, No. 61-30-A, KCL, Ten Section, Kern	30-30-26	4,690	sd. sh. drlg.
Shell Oil, No. 87-29-A, KCL, Ten Section, Kern	31-30-26	8,002	sd. sh. drlg.
Ohio Oil, No. 19-E, KCL, Canal, Kern	13-30-25	8,265	cleaning out
Richfield Oil, No. 18-28-A, KCL, Tupman, Kern	28-30-25	8,160	sd. sh. drlg.
Richfield Oil, No. 36-26-A, KCL, Tupman, Kern	28-30-25	6,071	sd. sh. drlg.
Richfield Oil, No. 58-28-A, KCL, Tupman, Kern	28-30-25	8,522	sd. sh. drlg.
Richfield Oil, No. 78-30-A, KCL, Tupman, Kern	30-30-25	8,460	sd. sh. drlg.
Richfield Oil, No. 72-32-A, KCL, Tupman, Kern	32-30-25	8,318	sd. sh. drlg.
Richfield Oil, No. 14-33-A, KCL, Tupman, Kern	33-30-25	7,672	sd. sh. drlg.
Richfield Oil, No. 18-33-A, KCL, Tupman, Kern	33-30-25	8,794	sd. sh. drlg.
Richfield Oil, No. 34-33-A, KCL, Tupman, Kern	33-30-25	8,180	sd. sh. drlg.
Richfield Oil, No. 52-33-A, KCL, Tupman, Kern	33-30-25	7,570	sd. sh. drlg.
Richfield Oil, No. 54-33-A, KCL, Tupman, Kern	33-30-29	8,680	sd. sh. drlg.
Richfield Oil, No. 34-29-A, KCL, Tupman, Kern	29-30-25	8,397	sd; sh. drlg.
Richfield Oil, No. 38-29-A, KCL, Tupman, Kern	29-30-25	7,675	sd. sh. drlg.
Richfield Oil, No. 276-29-A, KCL, Tupman, Kern	29-30-25	9,125	completing
Richfield Oil, No. 78-28-B, KCL, Cole's Levee, Kern	28-30-25	8,392	sd. sh. drlg.
Richfield Oil, No. 54-4-B, KCL, Cole's Levee, Kern	4-31-25	8,891	sd. sh. drlg.
Standard Oil, No. 20-6, KCL, Cole's Levee, Kern	9-31-25	8,660	hd. sh. drlg.
Ohio Oil, No. 8-F, KCL, Cole's Levee, Kern	11-31-25	9,808	flow. 1,332 b.d.
Ohio Oil, No. 9-F, KCL, Cole's Levee, Kern	3-31-25	8,240	sd. sh. drlg.
Foster, Robt., No. 1 Hollingsworth, Midw-Sun., Kern	22-32-23	2,250	sd. sh. drlg.
Texas Co., No. 40 Midway, Midway-Sunset, Kern	32-32-24	2,298	sd. sh. drlg.
Exeter Oil, No. 8 Murphy, Midway-Sunset, Kern	28-32-24	2,994	sd. sh. drlg.
Signal O. & G., No. 8 Kendon, Midway-Sunset, Kern	35-32-23	1,898	sd. sh. drlg.
Union Oil, No. 9 Lakeview, Midway-Sunset, Kern	25-12-24	2,738	will deepen
Honolulu Oil, No. 25-P, Buena Vista, Mid.-Sun., Kern	10-32-24	1,250	sd. sh. drlg.
Republic Pet., No. 1 C.H., Midway-Sunset, Kern	18-32-23	2,160	sd. sh. drlg.
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	10,361	flow 1,850 b.d.
Western Gulf-Texas, No. 74-3-A, KCL, Paloma, Kern	3-32-26	10,706	testing
Richfield Oil, No. 1 Ranch, Tejon Ranch, Kern	2-10-19	6,671	hd. sd. drlg.
Richfield Oil, No. 2, KCL, Wheeler Ridge, Kern	28-11-20	3,987	hd. sd. drlg.
Erickson-Swanson, No. 2 Gravender, Kingsb., Fresno	22-16-22	1,250	hd. sh. drlg.
Logan, J. E., No. 44 Yearout, Cantua, Fresno	26-16-14	6,893	sd. sh. drlg.
Continental Oil, No. 1 Joint, Jacalitos, Fresno	4-22-16	160	sd. sh. drlg.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	9,225	P.B. 7,350
Texas Co., No. 1 S.P., Turk anticline, Fresno	23-17-15	10,116	water witch
Shell Oil, No. 45-2, East Coalinga, Fresno	2-20-15	3,745	bailing
Standard Oil, No. 68-19-B fee, N.E. Coalinga, Fresno	19-19-16	8,270	flow. 2,230 b.d.
Standard Oil, No. 77-19-B fee, N.E. Coalinga, Fresno	19-19-16	7,090	sd. sh. drlg.
Standard Oil, No. 82-19-B fee, N.E. Coalinga, Fresno	19-19-16	8,205	O.S. drlg.
Standard Oil, No. 86-19-B fee, N.E. Coalinga, Fresno	19-19-16	6,893	sd. sh. drlg.
Amerada, No. 3-20-B Ewing, N.E. Coalinga, Fresno	20-19-16	1,994	sd. sh. drlg.
Amerada Pet., No. 38-9 S.P., N.E. Coalinga, Fresno	9-19-16	966	sd. sh. drlg.
Pure Oil, No. 44-30-B Schwinn, N.E. Coal., Fresno	30-19-16	8,180	O.S. drlg.
Wilshire Oil, No. 62-30-B, N.E. Coalinga, Fresno	30-19-16	8,260	tested wet
Union Oil, No. 55-18 Cook, N.E. Coalinga, Fresno	18-19-16	6,998	sd. sh. drlg.
Bandini Pet., No. 71-30-B, N.E. Coalinga, Fresno	30-19-16	8,190	sd. sh. drlg.
Lytle, R. S., agent, No. 33-7-F, S.E. Coalinga, Fresno	7-20-16	5,976	sd. sh. drlg.
Lytle, R. S., agent, No. 68-15-F, S.E. Coal., Fresno	18-20-16	8,051	O.S. drlg.
Lytle, R. S., agent, No. 77-18-F, S.E. Coal., Fresno	18-20-16	7,521	O.S. drlg.
Lytle, R. S., agent, No. 62-18-F, S.E. Coal., Fresno	18-20-16	7,580	br. sh. drlg.
Texas Co., No. 5 Exeter, S.E. Coalinga, Fresno	6-20-16	5,997	sd. sh. drlg.
Univ. Consd. Oil, No. 72-24-C, S.E. Coalinga, Fresno	24-20-15	7,660	sd. sh. drlg.
Standard Oil, No. 68-13-F fee, S.E. Coalinga, Fresno	13-20-15	7,451	br. sh. drlg.
Standard Oil, No. 88-13-C fee, S.E. Coalinga, Fresno	13-20-15	7,397	sd. sh. drlg.
Standard Oil, No. 22-17-F fee, S.E. Coalinga, Fresno	17-20-16	7,690	br. sh. drlg.
Standard Oil, No. 1-19-F fee, S.E. Coalinga, Fresno	19-20-16	7,630	O.S. drlg.
Standard Oil, No. 51-19-F fee, S.E. Coalinga, Fresno	19-20-16	7,040	sd. sh. drlg.
Standard Oil, No. 62-19-F fee, S.E. Coalinga, Fresno	19-20-16	2,752	sd. sh. drlg.
Superior Oil, No. 5-B Cagle, S.E. Coalinga, Fresno	6-20-16	6,463	sd. sh. drlg.
Union Oil, No. 9 King, Kettleman N. Dome, Fresno	29-21-17	10,200	cleaning out
K. N. D. A., No. 322-18-J, Kettleman N. Dome, Fres.	18-21-17	9,830	hd. sh. drlg.
K. N. D. A., No. 23-20-J, Kettleman N. Dome, Fresno	20-21-17	8,490	O.S. drlg.
K. N. D. A., No. 36-20-J, Kettleman N. Dome, Fresno	20-21-17	8,935	sd. sh. drlg.
K. N. D. A., No. 58-18-Q, Kettleman N. Dome, Kings	18-22-18	5,750	sd. sh. drlg.
K. N. D. A., No. 27-26-Q, Kettleman N. Dome, Kings	26-22-18	6,793	sd. sh. drlg.
K. N. D. A., No. 58-26-Q, Kettleman N. Dome, Kings	26-22-18	7,961	hd. sh. drlg.
Standard No. 321-29-J, Kettleman N. Dome, Fresno	29-21-17	10,490	redrlg. 10,080
Standard, No. 334-29-J, Kettleman N. Dome, Fresno	29-21-17	9,970	sd. sh. drlg.
Tide Water, No. 1 West Slope, Pyramid Hills, Kings	20-24-18	950	pump 35 b.d.
Tide Water A. O., No. 1 fee, Pyramid Hills, Kings	18-24-18	587	will deepen
Tide Water A. O., No. 35-22 Daniel, Trico, Tulare	22-24-23	7,696	sd. sh. drlg.
Cal. Fuel Oil, Inc., No. 3 Alberta, Huasna, S. L. Ob.	5-32-13	2,850	sd. sh. drlg.
Superior Oil, No. 1 Tar Springs, Huasna, S. L. Ob.	24-32-14	2,098	sd. sh. drlg.

OKLAHOMA

Week Ended June 15

NORTHERN OKLAHOMA

Beckham County

Fred Coogan's No. 1 Kinchen, SE SE SE Sec. 4-9-25w. Dolo. 3,260 ft.; T.D. 3,714 ft.; P.B. 3,698 ft.; B. 1 B.O. and 3 bbl. S.W.

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Groman, SW NW NW Sec. 1-16-13w, Wlx. 9,179 ft.; sd. 10,074 ft.; cd. 10,871-75 ft.; N. S.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 9,370 ft.; C.O. at 6,600 ft.; W. 100 ft.; sd. 10,074 ft.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 2,450 ft.; to test.

Creek County

D. E. Demsey's No. 1 Marrs, NE NW SE Sec. 29-18-8. T.D. 1,062 ft.

Indo Oil Co.'s No. 1 Slick, NW NW NW Sec. 1-16-9. S.O. 1,145-78 ft.; T.D. in Dtchr. 2,919 ft.; H.F.O.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. T.D. 9,475 ft.; D.P. stk. 8,400 ft.

Garfield County

Champlin Ref. Co.'s No. 1 Kunkel, C E½ SE NW Sec. 23-23-6w. Lytn. 5,048 ft.; Miss. 6,070 ft.; drlg. 6,545 ft.

Garvin County

Troup et al's No. 1 Bowie, NW NE SE Sec. 34-3. Drlg. 1,410 ft.

Hughes County

Morgan-Gulf Prod. Co.'s No. 1 Diamond, C E½ NW SE Sec. 33-9-9. Msnr. 3,910 ft.; Hntn. 3,912 ft.; 2nd Wlx. 4,255 ft.; T.D. 4,261 ft.; P.B. 3,550 ft.

Walker et al's No. 1 Hawthorne, SW SW SE Sec. 19-7-10. Drlg. 603 ft.

Kay County

Alma Oil Co.'s No. 1 Gosting, SE cor. Sec. 14-27-2. Drlg. 2,750 ft.

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. Miss. 4,050 ft.; chat with S.O. 4,063-4,105 ft.; wtr. 4,433-40 ft., T.D.; P.B. 4,020 ft.

Kingfisher County

Phillips Pet. Co.'s No. 1 Grape, C NW SE Sec. 30-18-5w. Layton 5,600 ft.; O.S.W. 4,146 ft.; Miss. 6,670 ft.; T.D. 6,836 ft.; trying to restore circ.

Kiowa County

Gene Burke's No. 1 Morgansen, NW NW SW Sec. 6-2-16w. T.D. 500 ft.; tstg.

Hurst & Groth's No. 1 Groth, SW cor. Sec. 3-4-16w. Drlg. 325 ft.

C. H. Marshall's No. 1 Pottchin, NE NW NW Sec. 28-7-18w. S.D. 2,165 ft.

Lincoln County

Anderson-Prichard's No. 1 Smith, SE SW NE Sec. 18-15-5. Hntn. 4,278 ft.; Vla. 4,417 ft.; Wlx. 4,480 ft. and 4,514 ft.; T.D. 4,530 ft.; P.B. 3,542 ft.

Fields & Nagle's No. 1 Alspaugh, SW SE NW Sec. 35-15-6. T.D. 3,150 ft.; shot and S.D.O.

Logan County

Eason Oil Co.'s No. 1 Wells, NE NW NE Sec. 15-16-2w. Lytn. 4,274 ft.; Ckbd. 4,565 ft.; drlg. 4,750 ft.

Kerlyn Oil Co.'s No. 1 Cavanaugh, C W½ SW NW Sec. 1-15-4w. Miss. 6,105 ft.; Wdfd. 6,135 ft.; Hntn. 6,264 ft.; Vla. 6,404 ft.; fsg. 6,551 ft.

Kerlyn Oil Co.'s No. 1 Chitwood, NE NE SW Sec. 15-16-4w. Dolo. 6,510 ft.; Wlx. 6,578 ft.; cd. 6,695-98 ft., T.D.; rec. wtr. sd.; S. dead oil; D.&A.

Noble County

Helmerich & Payne's No. 1 Fireshaker, SE SE NE Sec. 11-24-3. Simp. 3,960 ft.; Wlx. 3,965 ft.; sd. and S.S.O. 3,983 ft.; fsg. 4,008 ft.

Okfuskee County

Burke-Greis' No. 1 Dew, NE NE NE Sec. 9-12-9. Fsg. 3,100 ft.

Oklahoma County

Continental Oil Co.'s No. 1 Renund, SE SE NE Sec. 24-14-4w. Drlg. 145 ft.

Osage County

Mid-Continent Pet. Corp.'s No. 1 Osage, NW NW NE Sec. 18-24-5. T.D. 1,480 ft.

Payne County

Cities Service Oil Co.'s No. 1 Sinnett, SE SE SW Sec. 14-20-4. Prue 3,300 ft.; Bart. 3,490 ft.; Miss. 3,725 ft.; cd. 3,960-68 ft. in Wlx.; D.&A.

Comoil-Haskins' No. 1 Meyer, NW SE SE Sec. 17-17-6. S.O. 2,894 ft.; T.D. 2,897 ft. in Prue; est. 75 B.O. and 2,500,000 cu. ft. gas; S.I. for tankage.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. 8-in. 650 ft.; T.D. 671 ft.

Kerlyn Oil Co.'s No. 1 Chism, NW SE SE Sec. 24-5-6. Cg. 1,691 ft.

Morgan et al's No. 1 Brown, SW SW SE Sec. 30-3-5. S.D. 565 ft.

Sandback et al's No. 1 Statler, NE cor. Sec. 26-5-6. T.D. 2,007 ft.; P.B. 1,903 ft.; F. 26 B.O. in 24 hrs.; est. 6,500,000 cu. ft. gas.

Pottawatomie County

J. F. Smith's No. 1-A McKnown, SE SW NW Sec. 25-8-4. Drlg. 4,035 ft.

Thompson Bros.' No. 1 L. Truesdale, SE SE NW Sec. 31-8-5. Earls. 3,486 ft.; Msnr. 4,119 ft.; Hntn. 4,121 ft.; Vla. 4,224 ft.; drlg. 4,340 ft.

Seminole County

Murta et al's No. 1 Harber, C W½ NE SE Sec. 4-10-6. Msnr. 4,243 ft.; dry Hntn. 4,259 ft.; T.D. 4,269 ft.; D.&A.

Winona Oil Co.'s No. 1 Jackson, SW SE NE Sec. 18-7-8. Vla. 4,078 ft.; dnse. 4,120 ft.; dolo. 4,140 ft.; 1st Wlx. 4,189 ft.; T.D. 4,195 ft.; F. 360 B.O. in 24 hrs. comp.

Washita County

Continental Oil Co.'s No. 1 School ld., C NE Sec. 16-8-16w. Gr. wsh. 3,005 ft.; drlg. 6,893 ft.

SOUTHERN OKLAHOMA

Atoka County

Kirksey's No. 1 Baskett, SW SE SE Sec. 7-3s-10e. Sdy. L. 470-80 ft.; S.O.; drlg 700 ft.

Scrivner et al's No. 1 Plettner, NW NW NE Sec. 36-3s-13. S.D. 1,500 ft.

Thompson Bros.' No. 1 Richardson, NE SE SW Sec. 10-3s-9. Drlg. 890 ft.

Cotton County

Scott's No. 1 Masonic Home, NW NW SW Sec. 13-4s-13w. S.D. 1,850 ft.

Marshall County

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 5,528 ft.; S.D.O.

Tillman County

Gulf Oil Corp.'s No. 1 Owen, NE NE NE Sec. 27-4s-15w. T.D. 4,081 ft.

Kadane Bros.' No. 1 Andrews, NW cor. Sec. 35-2s-19w. Drlg. 2,460 ft.

KANSAS

Week Ended June 15 (Descriptions are East unless marked otherwise)

Barber County

Sinclair-Prairie Oil Co.'s No. 1 Binning, C S½ SE SW Sec. 26-32-13w. Tpka. 3,045 ft.; Lans. 3,930 ft.; Miss. 4,430 ft.; cg.

Butler County

J. H. Wagoner's No. 1-A Ramsey, SW NW SE Sec. 8-24-5. Pay 2,088-93 ft.; T.D. 2,501 ft.

Cowley County

Barwick & Sheridan's No. 1 Warren, C W½ NW NW Sec. 18-35-6. K.C. 2,675 ft.; drlg. 2,725 ft.

Foster Oil Co.'s No. 2 Howard. E½ SW SW Sec. 8-34-4. Miss. 3,329 ft.; drlg. 3,370 ft.

McKnab's No. 1 Lemert, CWL NW SE Sec. 11-34-4. Drlg. 2,025 ft.

McKnab's No. 1 Snyder, C W½ NW NW Sec. 15-34-3. Bart. 3,270-80 ft.; Miss. 3,291 ft.; S. 103 B.O. in 8 hrs.

I. W. Murfin's No. 1 Jarvis, N½ SW NE Sec. 19-31-5. Drlg. 2,125 ft.

E. B. Shawver's No. 1-B Widener, C S½ SE NW Sec. 11-30-4. Miss. 2,825-40 ft.; Arb. 3,226 ft.; 1½ B.O.P.H.; T.D. 3,245 ft.; inc. wtr.

Stewart et al's No. 1-A Ehmke, C W½ NW NW Sec. 14-32-3. Drlg. 1,705 ft.

Dickinson County

Midland Oil Co.'s No. 1 Haines, SE SW SW Sec. 23-16-4. S.D. 2,270 ft.

Douglas County

Forrester et al's No. 1 Altenbernd, CSL NW Sec. 35-12-20. S.D. 79 ft.

Ellis County

Davis Gas Corp.'s No. 1 Green, SW SW NW Sec. 9-11-19w. Ponds.

Gulf et al's No. 1 Sander, CWL SW SE Sec. 30-13-16w. Tpka. 2,940 ft.; Arb. 3,450 ft.; P. 204 B.O. and 121 B.W. in 21 hrs.

Ellsworth County

Cities Service's No. 1 Kanak, SW cor. Sec. 12-16-8w. Fsg. 2,289 ft.

Emerich et al's No. 1 Hagy, C W½ SW NE Sec. 20-16-10w. S.D. 1,850 ft.

Finston et al's No. 1 Siemsen, C W½ NW SE Sec. 3-17-10w. Drlg. 1,755 ft.

Moore's No. 1 Little, C S½ SE NE Sec 30-16-10w. Lans. 3,026 ft.; Arb. 3,371 ft.; H.F.W. 3,406 ft., T.D.; D.&A.

Palmer Oil Corp.'s No. 1 Stratman, C E½ NE SW Sec. 15-17-10w. Drlg. 576 ft.

Greenwood County

Ashlock et al's No. 2-A Lindemood, NE NW SW Sec. 7-25-13. Pay 1,613-20 ft., T.D.; est. 2 B.O.P.D.

Johnson County

McCain et al's No. 1 Doan, CEL NW SE Sec. 34-12-22. S.D. 1,535 ft.

Kearny County

Stanolind O. & G. Co.'s No. 1 Judd, C SE SE Sec. 15-21-38w. Drlg. 2,580 ft.

Kingman County

Gaddis et al's No. 1-A Shannon, CEL SE SW Sec. 11-27-10w. Lans. 3,493 ft.; Vla. 4,293 ft.; S.S.O.; T.D. 4,315 ft.; D. &A.

McPherson County

Aladdin Pet. Co.'s No. 1 Bitikofer, CNL NE NW Sec. 1-20-1w. Lans. 2,315 ft.; Miss. 2,885 ft.; pot. 49 B.O.P.D.; comp.

Bay Pet. Co.'s No. 1 Coons, C W½ SW SW Sec. 13-19-1w. Lans. 2,312 ft.; Miss. 2,906 ft.; T.D. 2,925 ft.

Broadwater, Inc.'s No. 1 Heaton, C E½ SE SE Sec. 28-17-1w. Drlg. 660 ft.

H. & M. Drlg. Co.'s No. 1 Swenson, S½ SW NE Sec. 9-18-4w. Miss. 3,021 ft.; drlg. 3,030 ft.

Marion County

H. H. Royer's No. 1 Kroch, NE NE NW Sec. 28-18-4. O.T.D. 2,452 ft.; drlg. 2,488 ft.

Pawnee County

Magnolia's No. 1 Smith, CEL NE NE Sec. 12-21-16w. Lans. 3,412 ft.; cg. 3,620 ft.

Reno County

Dutton et al's No. 1 Green, SE SE SE Sec. 8-23-4w. Lans. 2,622 ft.; fsg.

Rice County

C. L. Carlock's No. 1 Conrad, C W½ SW NE Sec. 15-20-6w. Lans. 2,850 ft.; drld. plug; N.S.; D.&A.

Clyde Pulse's No. 1 Baker, CSL SW SW Sec. 33-20-6w. Lans. 2,870 ft.; Miss. 3,424-31 ft., T.D.; R.U.S.T.

Rooks County

Cities Service Oil Co.'s No. 1 Hansen, SE SE NW Sec. 15-6-19w. Lans. 3,343 ft.; Arb. 3,635-3,700 ft., T.D.; N.S.; D.&A.

Mitchell Drlg. Co.'s No. 1 Vererka, CSL SE SE Sec. 21-8-19w. Tpka. 2,783 ft.; Lans. 3,174 ft.; S.S.O. 3,174 ft.; set 5-in. at 3,192 ft.

Trees Oil's No. 1 Richards, C N½ NW SW Sec. 31-10-18w. Loc.

Wakefield et al's No. 1 Diehle, C N½ NW NW Sec. 4-9-17w. Drlg. 2,790 ft.

Russell County

Gussman's No. 1 Mudd, CWL NW NE Sec. 16-15-15w. Drlg. 885 ft.

Haynes et al's No. 1 Driscoll, CNL SE SW Sec. 30-15-11w. C.O. 2,475 ft.

Jones Bros.' No. 1 Mahoney, CSL SW SW Sec. 8-14-12w. Drlg. 1,785 ft.

MISSOURI

Adair County

Eddington et al's No. 1-A Clark, NE NE SE Sec. 8-63-14w. Miss. 310 ft.; Hunton 739 ft.; Vla. 970 ft.; St. P. 1,135 ft.

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. 8-in. 1,690 ft.; to D.D.

Livingston County

Chillicothe Syndicate's No. 1 Linton, C W½ SE Sec. 15-56-25w. S.D. 805 ft.

Platte County

Roach-Vincent et al's No. 1 Dillingham, C NE SW Sec. 16-53-34w. Miss. 1,063-1,445 ft.; Hntn. 1,475 ft.; S.D. 1,485 ft.

NEBRASKA

Morrill County

C. L. Price's No. 1 Bonner, SE cor. Sec. 10-23-49w. Drlg. below 3,900 ft.

Richardson County

Harper's No. 1 Sibbernsen, SE NE NW Sec. 20-1n-16. Hntn. 2,210 ft. T.D.; hd. L.

Pawnee Royalty Co.'s No. 1 Boice, CSL N½ NE NE Sec. 18-1n-16e. O.W.D.D.; Vla. 2,911 ft.; Arbuckle 3,268-3,300 ft., T.D.; P.B. 2,286 ft.; swb. 25 B.F.P.H.; 75 per cent W.

Uhri Oil Co.'s No. 1 Ogle, NE NW SE Sec. 9-1n-14e. S.D. 2,040 ft.

Uhri Oil Co.'s No. 1 Stauffer, SW SW NE 9-1n-14e. S.D. 1,660 ft.

ARKANSAS

Columbia County

Barnsdall Oil Co.'s No. 1 El Dorado & Wesson R. R. Co., C NW SW Sec. 5-19-18. Set 10¾-in. csg. 2,525 ft.; drlg. 6,675 ft.

Mid-Continent Pet. Corp.'s No. 1 J. Keith, C SW NW Sec. 16-18-22. Set 16-in. csg. 397 ft.; set 9⅝-in. csg. 4,144 ft., drlg. 5,950 ft.

Placid Oil Co.'s No. 1-B J. W. Booth, C SE SE Sec. 19-17-19. Set 13⅜-in. csg 135 ft.; drlg. 3,703 ft.

Southwood Oil Co.'s No. 2 H. C. Couch, C S½ SW SW and S½ SE SW Sec. 23-17-20. Drlg. 7,643 ft.

Standard Oil Co. of La.'s No. 1 Merritt et al unit, Sec. 16-17-20. Set 13⅜-in. csg. 224 ft.; drlg. 3,216 ft.

Tide Water Asso. Oil Co.'s No. 3 J. T. Beene, C SW NE Sec. 15-18-19. Loc.

Tide Water Asso. Oil Co.'s No. 1 E. M. Hutcheson, 330 ft. S, 1,320 ft. NE cor. SE Sec. 16-18-19. Loc.

Tide Water Asso. Oil Co. and Seaboard Oil Co.'s No. 2 C. H. Murphy et al, C SE NE Sec. 14-18-19. Set 9⅝-in. csg. 2,500 ft.; cd. 8,169-77 ft.; hd. dnse. gr. ool. L.; set 5½-in. csg. 8,177 ft.; T.D. 8,177 ft.; tstg.

G. H. Vaughn's No. 1 J. M. Talley, C N½ N½ SE Sec. 15-18-19. Set 5½-in. csg. 8,220 ft.; S.D.W.O. 8,220 ft.

Dallas County

H. H. McBride et al's No. 1 Southern Kraft Corp., C SE SW Sec. 16-2-16. R.U.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. T.D. 2,438 ft.; U.R. csg. and set 7-in. csg. 2,370 ft.; S.D.W.O. 2,744 ft.

Howard County

Miller & Fletcher's No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. S.D.W.O. 112 ft.

Lafayette County

J. & J. Oil Co.'s No. 1 J. E. Barnes, 345 ft. W, 615 ft. N, SE cor. Sec. 4-16-24. Set 10¾-in. csg. 218 ft.; T.D. 2,250 ft.; ran Schlumberger; waiting on orders.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabot, C NE Lot 1, Blk. 6, Sec. 18-4n-9w. Set 4¾-in. csg. 878 ft.; S.D.W.O. 1,275 ft.

J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W, SE cor. Sec. 17-5n-10w. Drld. sd. S.S.O. 2,231-45 ft.; S.D. 2,312 ft.; S.D.W.O. 2,388 ft.

Miller County

K. E. Jennings and J. J. Oil Co.'s No. 1 H. T. Wood, 520 ft. S, 255 ft. W, NE cor. Sec. 33-18-28. T.D. 4,547 ft.; S.D. W.O. 4,575 ft.

Ouachita County

Sam Richardson & Co., Inc.'s No. 10 J. Goodwin, 200 ft. N, 330 ft. W, SE cor. NE SW Sec. 32-15-15. Ran elec. sur. 4,320 ft.; set 7-in. csg. 2,717 ft.; W.O.S. R. 4,320 ft.

Saline County

A. W. Givens' No. 1 Williams, 375 ft. S, 420 ft. E, NW cor. NE NE Sec. 18-3s-15w. Set 6-in. csg. 500 ft.; S.D.W.O. 550 ft.

Tedford Drlg. Co. et al's No. 1 Cunningham, C SW NE Sec. 31-3s-15w. Set 12½-in. 75 ft.; S.D.W.O. 201 ft.

Sevier County

Gramp Oil Co.'s No. 1 Floyd Phillips, 330 ft. NW cor. NW Sec. 35-9s-30w. Fsg. collar and bit 1,085 ft.

R. A. McArthur's No. 1 Bell est., 20 ft. SE cor. SE SW Sec. 29-9s-32w. S.D. 785 ft.

Union County

Berg & Laney's No. 1 Cutrer, 150 ft. N, 660 ft. W, SE cor. NW SW Sec. 21-17-14. Cd. 2,727-28 ft.; rec. 7-in. por. sd.; cd. 2,728-35 ft.; rec. 7½ ft. soft por. sd., salty taste; drlg. by fish 350 ft.; T.D. 3,370 ft.; set 5½-in. csg. 2,771 ft.; perf. 2,702-05 ft.; bailed down 1,000 ft. and tstd. S.W.; recmtd. perf. 2,601-03 ft. and reperf. 2,572-74 ft.; S.D.W. O. 3,502 ft.

J. H. Coker and J. P. Grieves et al's No. 1 C. L. Smith, 330 ft. SW cor. NE NW Sec. 32-17-14. Set 10¾-in. csg. 225 ft.; W.O.C. 3,483 ft.

Marine Oil Co.'s No. 5-B W. B. Thompson, 250 ft. S, 200 ft. W, NE cor. SE SW Sec. 3-18-13. Set 10-in. csg. 140 ft.; Set 7-in. csg. 3,538 ft.; T.D. 3,573 ft.; W.O.S.R.

Marine Oil Co.'s No. 6-B Thompson, 350 ft. N, 200 ft. W. SE cor. SE SW Sec. 3-18-13. Drlg. 3,000 ft.

Phillips Pet. Co.'s No. 1 C. H. Murphy, 165 ft. S, 10 ft. E, NW cor. S½ Lot 2, NW Sec. 19-18-17. Set 9⅝-in. csg. 1,878 ft.; drlg. 6,830 ft.

Standard Oil Co. of La.'s No. 1 D. A. Zimmerman, 660 ft. SE cor. SE SE Sec. 29-18s-16w. Set 13⅜-in. csg. 227 ft.; drlg. 3,880 ft.

Tiger O & G. Co.'s No. 1-B Crystal fee, Sec. 24-21-16. Drlg. 480 ft.

Sloan Wells' No. 2 Stiles, Sec. 32-21-16. Set 10-in. csg. 40 ft.; W.O.C. 2,235 ft.

Catahoula Parish

Continental Oil Co.'s No. 1 Tensas, C N½ SW SW Sec. 12-9-7e. Set 10¾-in. csg. 1,120 ft.; drlg. 8,443 ft.

Claiborne Parish

Ohio Oil Co.'s No. 15 G. W. Taylor Acct. 1, 100 ft. S and W. C SE Sec. 15-23-8. Set 13⅜-in. csg. 980 ft.; T. James L. 4,789 ft.; cd. L., S.W. 4,789-4,811 ft.; T. Pett. L. 5,206 ft.; D.S.T. 5,208-31 ft.; ⅜-in. cks. T.&B.; tool open 28 min.; no W.P.; rec. 3½ jts. mud cut with oil; drlg. 5,801 ft.

De Soto Parish

Foster & Smith's No. 1 McRae, 800 ft. S, 550 ft. W, C Sec. 5-12-16. Set 10-in. csg. 60 ft.; S.D.W.O. 100 ft.

Franklin Parish

J. B. White et al's No. 1 Dailey,, 1,170 ft. N, 2,490 ft. W, SE cor. Sec. 1-11-6e. Drlg. 1,403 ft.

Grant Parish

C. M. Bowers' No. 1 Goodpine Oil Co., C SE SE Sec. 13-9n-1w. T. Wlx. 1,622 ft.; S.W. sd. 1,626 ft.; S.D.; W.O.

La Salle Parish

O. K. Allen, Jr., et al's No. 1 Breedlove. C SW NE Sec. 32-11-3e. Set 10¾-in. csg. 100 ft.; T. Wlx. 1,600 ft.; T.D. 1,-660 ft., S.D.; perf. 2,232-38 ft.; tstd. 13 B.F.P.H.; ¼-in. ck.; 25% S.W.; S.D. W.O. 2,243 ft.

Ark. Fuel Oil Co.'s No. 2-A Goodpine, 608 ft. N, 667 ft. W, SE cor. SW Sec. 7-20-3e. T.D. 2,239 ft.; tstg.

Coon & Ezell's No. 1 Herring, 300 ft. W, 150 ft. S, NE SE SW Sec. 1-8n-3e. T.D. 2,335 ft.; perf. 2,212-16 ft. and 2,228-32 ft.

H. C. Cummings' No. 1 Urania, C NW NE Sec. 2-10-2e. W.O.C. 100 ft.

La Salle, Asso., Inc.'s No. 1 fee, 205 ft. N, 30 ft. W, SE cor. SW SW Sec. 19-10-2e. Set 12-in. csg. 101 ft.; cg. 1,570 ft.

E. F. Neely's No. 1 Lizendy, 330 ft. NW cor. NE NE Sec. 19-10-3. T. Wlx. 1,600 ft.; br. sh. 2,227-41 ft.; cd. oil sd.; T.D. 2,380 ft.; set 5-in. csg. 2,368 ft.; perf. 2,272-32 ft. and tstd. S.W.; S.S.O.&G.; sanded up and W.O.

Placid Oil Co.'s No. 6 Goodpine, C NE SW Sec. 18-10-3e. Drlg. 175 ft.

Placid Oil Co.'s No. 17 La. Central, C NW SE Sec. 19-11-3e. T. Wlx. 1,590 ft.; cd. 2,200-2,410 ft.; all sds.; S.W.; drlg. 4,680 ft.

Placid Oil Co.'s No. 18 La. Central, C SW NW Sec. 36-10-2e. Set 10-in. csg. 108 ft.; T. Wlx. 1,580 ft.; cd. 2,212-45 ft., sd.&sh.; made 5 B.F., 60% oil at T.D. 2,423 ft.

Fred Stovall, Tr.'s No. 1 Russell, 200 ft. NW cor. SE SE Sec. 25-10-1e. Set 10-in. csg. 60 ft.; W.O.C.

G. W. Ziegen's No. 17 La. Central, C NW NE Sec. 36-11-2e. Set 10-in. csg. 100 ft.

Madison Parish

H. L. Hunt's No. 1 Ayers Tmbr. Co., C NW SW Sec. 18-15-10. Set 10¾-in. csg. 268 ft.; S.D.W.O. 3,486 ft.

Morehouse Parish

Southern Carbon Co.'s No. 30 Tensas, Sec. 2-21-4e. Set 6-in. csg. 2,230 ft.; W.O.C.

Sabine Parish

Geo. L. Pace's No. 5 Logan Oil Co., 330 ft. SW cor. SW NW Sec. 26-10-13. Set 7-in. csg. 1,925 ft.; W.O.S.R. 1,970 ft.

Roy Raines' No. 1 Carter, NW NW Sec. 27-9-11. T.D. 1,820 ft.; S.D.

Sutton Zwolle Oil Co.'s No. 3 Sabine, 1,-650 ft. S, 660 ft. E, NW cor. NE Sec. 23-7-14. S.G. 3,538-60 ft.; jnkd. hole 3,560 ft.; W.O.

Union Parish

Interstate Nat. Gas Co.'s No. 97 fee, Sec. 2-21-3. Set 8-in. csg. 790 ft.; set 6-in. csg. 2,129 ft.; W.O.C.

Memphis Nat. Gas Co.'s No. 2 Potts, Sec. 19-21-3e. Set 8-in. csg. 768 ft.; W.O.C. 2,143 ft.

Webster Parish

Hunt Oil Co.'s No. 2 Scott, 1,980 ft. N. 50 ft. E, SW cor. Sec. 20-21-9. Set 13⅜-in. csg. 610 ft.; W.O.C. 5,630 ft.

Hunt Oil Co.'s No. 6 E. L. Stewart, 200 ft. NW C NE SE Sec. 30-21-10. Set 9⅝-in. csg. 5,606 ft.; drlg. 7,794 ft.

Midstates Oil Corp.'s No. 1 Giddens unit 282 ft. N and W. C SW NE Sec. 30-21-9. Set 13⅜-in. csg. 667 ft.; drlg. 6,414 ft.

LOUISIANA

NORTH LOUISIANA

Bienville Parish

Union Prod. Co.'s No. 1 Harris unit, 150 ft. N and W of SE line NW NW Sec. 11-16-10. Loc.

Bossier Parish

L. K. McGriffin's No. 1 Tomlinson, 990 ft. S, 600 ft. E, C Sec. 16-18-11. Drk.

R. L. Reese et al's No. 1 Bellevue Ld. Co., 170 ft. E, 365 ft. N, C Sec. 27-20-11. Set 10-in. csg. 100 ft.; S.D.R. 1,-200 ft.

Caddo Parish

W. F. Bridewell's No. 1 Stiles, Sec. 21-21-16. W.O.C. 2,205 ft.

C. J. Brown's No. 4 Muslow, Sec. 31-21-15. W.O.C. 1,336 ft.

H. B. Burden's No. 1 Fouche, Sec. 1-20-16. W.O.C. 1,346 ft.

D. T. Cauble's No. 1 Darnell, Sec. 17-22-16. Set 10-in. csg. 80 ft.; sd. 3,002-10 ft. and 3,012-52 ft.; S.O.; T.D. 3,204 ft.; set 5⅛-in. csg.; perf. 3,086-92 ft.; tstd. dry; perf. 3,085-90 ft.; tstd. dry; shot csg. with 9 qts. nitroglycerin and tstd. S.W.; S.D.W.O. 3,204 ft.

Chastain & Meier's No. 1 Crystal fee, Sec. 24-21-16. R.U.

A. L. Farr's No. 1 Muslow, Sec. 31-21-15. Drlg. 1,050 ft.

Claud Ferguson's No. 1 Dickson, Sec. 3-20-15. Set 10-in. csg. 40 ft.; W.O.C. 1,-524 ft.

L. Halbfass' No. 1-B Knight Oil & Ld. Co. Sec. 1-21-16. Set 10-in. csg. 60 ft.; cg. 1,625 ft.

F. G. Holcomb's No. 1 Sims, Sec. 3-20-16. Set 10-in. csg. 75 ft.; drlg. 650 ft.

McDonald & Campbell's No. 15 Youree, Sec. 13-20-15. Set 6⅝-in. csg. 2,264 ft.; T.D. 2,270 ft.; W.O.S.R.

Magnolia Pet. Co.'s No. 22 Doan-Thigpen, Sec. 6-20-15. W.O.C. 1,360 ft.

Marion Oil Co.'s No. 7 Hart, Sec. 22-21-16. Set 10-in. csg. 40 ft.; set 6⅝-in. csg. 1,021 ft.; W.O.S.R. 1,027 ft.

G. H. Neighbors' No. 1 Richardson, Sec. 36-21-16. Cg. 1,475 ft.

Oil & Gas, Inc.'s No. 3 Stiles, Sec. 28-21-16. Set 10-in. csg. 84 ft.; W.O.C.

Providence Oil Co.'s No. 6 Bostwick, Sec. 13-22-16. Set 7-in. csg. 2,624 ft.

Skibro Co.'s No. 1 Shreveport Pet. Co., Sec. 2-20-16. Drlg. 1,540 ft.

Stanolind O. & G. Co.'s No. 2 Dorian, Sec. 18-21-15. Set 5½-in. csg. 1,535 ft.; acd. 1,700 ft.; tstg. 1,700 ft.

Stanolind O. & G. Co.'s No. 1 R. T. Glassell, Sec. 25-21-15. Set 5½-in. csg. 1,421 ft.; T.D. 1,590 ft.; prep. acd. 1,590 ft.

E. A. Stiller's No. 3 Stiles, Sec. 28-21-16. W.O.C. 2,351 ft.

L. L. Sugar's No. 1-A Sample, Sec. 31-21-15. Set 10-in. csg. 60 ft.; W.O.C. 1,-393 ft.

Texas Co.'s No. 10 J. F. Herndon, Sec. 14-21-15. Set 6⅝-in. csg. 1,484 ft.; acd. with 4,000 gal.; pmpg. S.W.; S.O. 1,672 ft.; prep. test 1,672 ft.

Texas Co.'s No. 1 La. Co. fee, Sec. 1-20-16. T.D. 1,672 ft.; tstd. S.W. 1,473 ft.; set short string 5-in. csg. 1,508 ft.; tstd. S.W.; S.O.; T.D. 1,672 ft.

SOUTH LOUISIANA FIELDS

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 1 Tortoris, Sec. 122-9s-5e. Drlg. sd.&sh. 4,200 ft.

Iberia Pet. Corp.'s No. 2 A. Mores, Sec. 118-9s-5e. Drk.

Rice Drlg. Co.'s No. 1 Dupuis, Sec. 46-9s-5e. Drlg. sh. 2,100 ft.

Stanolind O. & G. Co.'s No. 1 Bergeron, Sec. 121-9s-5e. R.U.

Bancroft—Beauregard Parish

Republic Prod. Co.'s No. 18 Columbia, Sec. 15-6s-13w. Drlg. sh. 1,525 ft.

Barataria—Jefferson Parish

California Oil Co.'s No. 1 La. Truck & Orange Co., Sec. 15-15s-23e. 10¾-in. csg. 2,011 ft.; S.D. 3,285 ft.

California Oil Co.'s No. 1 Danciger-State, Sec. 2-16s-23e. Loc.

Carter, Perrin & Brian's No. 1 Penniman-Westerfeidt, Sec. 15-15s-23e. R.U.

Carter, Perrin & Brian's No. 2 Ruttley-Wiseman, Sec. 2-16s-23e. R.U.

Geo. Conover's No. 1 Conover Community, Sec. 22-15s-23e. Loc.

Fohs Oil Co.'s No. 1 Conzelman, Sec. 22-15s-23e. Loc.

Baton Rouge—East Baton Rouge Parish

Wm. Hells' No. 9 Nelson, Sec. 36-7s-1w. Loc.

Sugarfield Oil Co.'s No. 1 Rosebush, Sec. 46-7s-1e. R.U.

Bayou Blue—Iberville Parish

T. G. Markley and Crosby Drlg. Co.'s No. 2 Baiste, Sec. 74-9s-10e. T.D 3,695 ft.; 7-in. csg. 1,238 ft.

Superior Oil Co.'s No. 1 E. B. Schwing, Sec. 73-9s-10e. T.D. 8,362 ft.; P.B.: sdtrkd.; drlg. sh. 6,256 ft.

Superior Oil Co.'s No. 3 Schwing Lbr. Co., Sec. 74-9s-10e. Drk.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 2 Cypress, Sec. 28-8s-11e. 10¾-in. csg. 2,250 ft.; T.D. 8,609 ft.; P.B.; sdtrkd.; drlg. sh. 8,567 ft.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co.'s No. 3-B Wilberts & Sons, Sec. 78-8s-8e. R.U.

Bayou Pigeon—Iberia Parish

Amerada Pet. Corp.'s No. 1 State, Sec. 24-12s-10e. Loc.

Plymouth Oil Co.'s No. 1 Leblanc, Sec. 13-12s-10e. R.U.

Bayou des Allemands—La Fourche Parish

Amerada Pet. Corp.'s No. 4 Gheens Realty, Sec. 56-15s-20e. T.D. 7,569 ft.; 5½-in. csg. 7,540 ft.

Delta Farms—La Fourche Parish

Tide Water Asso. Oil Co.'s No. 2 Delta Farms, Inc., Sec. 1-17s-22e. Dredge can.

Bay St. Elaine—Terrebonne Parish

Jefferson Lake Sulphur Co.'s No. 1 Salt Dome Royalties, Sec. 8-22s-18e. Drlg. 50 ft.

Texas Co.'s No. 4-B State, Sec. 13-22s-17e. Drlg. sdy. L. 2,420 ft.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 13 State, Sec. 20-23s-20e. Drlg. sdy. sh. 5,160 ft.

Texas Co.'s No. 68 State, Sec. 17-23s-20e. T.D. 5,208 ft.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 28 Cameron Meadows, Sec. 21-14s-13w. T.D. 6,263 ft.; 7-in. csg. on bttm.; perf. csg. 6,232-50 ft.; flwg. at rate of 200 B.P.D.; ¼-in. ck.

Chacahoula—La Fourche Parish

Sun Oil Co.'s No. 2 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,815 ft.; drlg. 7,638 ft.

Sun Oil Co.'s No. 8 Dibert, Stark & Brown Cypress Co., Sec. 70-15s-15e. 10¾-in. csg. 1,831 ft.; T.D. 5,806 ft.; sdtrkd.; drlg. sd.&L. 6,220 ft.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 9 Hanzen, Sec. 9-12s-6w. Drlg. sh. 8,596 ft.

Shell Oil Co., Inc.'s No. 1 Coastal Club. T.D. 10,184 ft.; 5½-in. csg. 10,100 ft.; I.P. 113 bbl. dist. per day; 10/64-in. ck. T.P. 5,300 lb.

Chaneyville—Rapides Parish

Amerada Pet. Corp.'s No. 10 Weil, Sec. 53-1s-2e. T.D. 5,575 ft.; W.O.C.

S. W. Richardson's No. 13 Weil, Sec. 55-1s-2e. Drlg. sh. 7,936 ft.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 3-B Community, Sec. 30-10s-2e. T.D. 9,335 ft.; well tried to blow out; stk. D.P.; abd.

Humble O. & R. Co.'s No. 29 Community, Sec. 30-10s-2e. Drlg. sh. 4,530 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 11 State, Sec. 32-21s-16e. 10¾-in. csg. 1,751 ft.; T.D. 6,870 ft.; 7-in. csg. 6,886 ft.; I.P. 16 bbl. dist. per day; ½-in. ck.

Texas Co.'s No. 24 State, Sec. 5-22s-16e. Loc.

Edgerly—Calcasieu Parish

Emerson Oil Corp.'s No. 3 Stanolind fee Sec. 28-9s-11w. T.D. 3,680 ft.; 5½-in. csg. 3,665 ft.; P.B. to test.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 1 Beverly, Sec. 45-1s-2e. Drlg. sh. 6,830 ft.

Amerada Pet. Corp.'s No. 1 Dent-Howell, Sec. 1-2s-2e. Drlg. sh. 7,580 ft.

Amerada Pet. Corp.'s No. 9 Glaze, Sec. 6-2s-3e. Drlg. sh. 6,920 ft.

Amerada Pet. Corp.'s No. 1 Martin, Sec. 1-2s-2e. T.D. 8,570 ft.; tstg.

Harry Bass et al's No. 2 Richie. T.D. 8,580 ft.; perf. csg. 8,545-75 ft.; I.P. 680 B.P.D.; ¼-in. ck.

Gulf Ref. Co.'s No. 4 Mouliere, Sec. 1-2s-2e. Drlg. sh. 6,839 ft.

Lester A. Lemoine's No. 1 fee, Sec. 41-1s-3e. Loc.

Geo. Lilly's No. 2 Dent, Sec. 1-2s-2e. Drlg. sh. 6,910 ft.

S. W. Richardson's No. 1-B Haas Inv. Co., Sec. 42-1s-2e. T.D. 9,735 ft.; abd.

S. W. Richardson's No. 13 Haas Inv. Co., Sec. 7-2s-3e. Drlg. sh.&L. 6,720 ft.

Erath—Vermilion Parish

Humble O. & R. Co.'s No. 1 Vermilion Parish Sch. Bd., Sec. 16-13s-4e. Loc.

Strake Pet. Co., Inc.'s No. 1 V. L. Caldwell, Sec. 41-13s-4e. Drlg. sh. 11,010 ft.
Texas Co.'s No. 1 Trahan, Sec. 22-13s-4e. 11¾-in. csg. 2,085 ft.; drlg. sh. 8,253 ft.

Fausse Point—Iberia Parish

Sun Oil Co.'s No. 2 Cling & Walet, Sec. 26-11s-8e. T.D. 1,204 ft.; tstg.
Sun Oil Co.'s No. 2 Planters Lbr. Co., Sec. 27-11s-8e. 10¾-in. csg. 1,436 ft. T.D. 6,519 ft.; salt; P.B.
Texas Co.'s No. 7 State, Sec. 35-11s-8e. T. salt 7,001 ft.; T.D. 7,005 ft.; P.B.; sdtrkd.; drlg. sd. 7,006 ft.

Four Isle—Terrebonne Parish

La. Ld. & Expl. Co.'s No. 1 State-Four Isle, Sec. 23-21s-16e. Loc.

Garden Island—Plaquemines Parish

Texas Co.'s No. 45 State, Sec. 38-23s-33e. Cg. 5,710 ft.

Gillis—Calcasieu Parish

Union Sulphur Co.'s No. 3 McIver, Sec. 14-9s-8w. Loc.

Golden Meadow—La Fourche Parish

Bennett O. & R. Co.'s No. 2 Authement, Sec. 12-19s-22e. T.D. 7,855 ft.; fsg.
Bennett O. & R. Co.'s No. 2 Guilbeau, Sec. 2-19s-22e. Drk.
Berkshire Oil Co.'s No. 1 Nicol, Sec. 9-19s-22e. 10¾-in. csg. 2,362 ft.; T.D. 10,078 ft.; 7-in. csg. 8,207 ft.; perf. csg. 5,165-69 ft.
Gulf Ref. Co.'s No. 1-A Allen Ld. Co., Sec. 5-20s-22e. Drlg. sh. 4,810 ft.
Temple Hargrove's No. 5 Gaspard, Sec. 9-19s-22e. T.D. 5,540 ft.; 5½-in. csg. 5,490 ft.; perf. csg. 5,151-74 ft.; I.P. 216 B.P.D.; 10/64-in. ck.
Jim McMurray Prod. Co.'s No. 1 Orgeron, Sec. 12-19s-22e. T.D. 5,492 ft.; 5½-in. csg. 5,487 ft.; perf. csg. 5,151-70 ft.; I.P. 129 B.P.D.; ¼-in. ck.
M. H. Marr et al's No. 2 B. & D. unit, Sec. 17-19s-22e. Road comp.
M. H. Marr et al's No. 3 B.&D. unit, Sec. 12-19s-22e. 10¾-in. csg. 2,580 ft.; cg. sh. 8,239 ft.
Martex Oil Corp.'s No. 4 Falgout Holding Co., Sec. 9-19s-22e. Drlg. sh. 4,260 ft.
Martex Oil Corp.'s No. 1 Yankee Canal Sec. 22-19s-22e. Loc.
Geo. O'Dwyer's No. 3 La Fourche Realty Co., Sec. 21-19s-22e. T.D. 5,500 ft.; perf. csg. 5,445-55 ft.; I.P. 358 B.P.D.; ¾-in. ck.
S. Rhodes' No. 1 Nickerson, Sec. 12-9s-8w. Drlg. sh. 5,520 ft.
C. R. Schuster's No. 1 Broussard, Sec. 2-19s-22e. T.D. 2,648 ft.; 5-in. csg. 2,637 ft.; W.O.S.R.
Terrouche Oil Co.'s No. 2 Cheramie, Sec. **12-19s-22e. Drk.**
Texas Co.'s No. 13 Falgout Holding Co., Sec. 9-19s-22e. T.D. 5,185 ft.; 7-in. csg. 5,158 ft.
Texas Co.'s No. 12 Golden Meadow, Sec. 78-19s-21e. T.D. 9,250 ft.; sdtrkd.; drlg. sdy. sh. 7,846 ft.
Texas Co.'s No. 6 La Terre, Sec. 1-20s-21e. 10¾-in. csg. 2,050 ft.; T.D. 10,680 ft.; 7-in. csg. 10,443 ft.; perf. csg. 10,-045-60 ft.; rec. S.W.; reperf. csg. 10,-045-56 ft.; tstg.

Grand Bay—Plaquemines Parish

Gulf Ref. Co.'s No. 2-A Grand Prairie Lv. dist., Sec. 48-20s-18e. T.D. 9,721 ft.; P.B. 9,707 ft.
Gulf Oil Co.'s No. 7-A Grand Prairie Lv. dist., Sec. 5-20s-19e. T.D. 8,770 ft.; W.O.C.
Gulf Oil Co.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.
Gulf Oil Co.'s No. 9-A Grand Prairie Lv. dist., Sec. 31-19s-19e. Loc.
Gulf Oil Co.'s No. 5 State QQ, Sec. 31-19s-19e. Loc.
Texas Co.'s No. 3 State-Lookout Pass, Sec. 6-20s-19e. T.D. 10,069 ft.; 7-in. csg. 10,065 ft.; perf. csg. 8,374-90 ft.; I.P. 368 B.P.D.; ⅛-in. ck.

Grand Lake—Cameron Parish

Amerada Pet. Corp.'s No. 11 State, Sec. 12-13s-4w. T.D. 9,000 ft.; run csg.
Superior Oil Co.'s No. 10 State, Sec. 5-16s-4w. T.D. 8,955 ft.; perf. csg. 8,948-53 ft.; I.P. 216 B.P.D.; 9/64-in. ck.
Superior Oil Co.'s No. 13 State, Sec. 11-13s-4w. Drlg. 7,236 ft.

Hackberry—Cameron Parish

Hanson & Abercrombie's No. 2 Verdin, Sec. 36-12s-10w. T.D. 7,800 ft.; P.B.
Stanolind O. & G. Co.'s No. 22 Cameron Parish, Sec. 16-12s-10w. Drlg. sh.&L. 9,006 ft.
Stanolind O. & G. Co.'s No. 31 Gulf Ld., Sec. 25-12s-11w. T.D. 8,198 ft.
Superior Oil Co.'s No. 2 Kaough, Sec. 31-12s-10w. Drlg. sh.&L. 6,629 ft.
Texas Co.'s No. 30 State, Twp. 12s-9w. Drlg. sdy. sh. 2,420 ft.

Happytown—Iberville Parish

Shell Oil Co., Inc.'s No. 1 Schwing Lbr. & Shingle Co., Sec. 85-7s-lie. Cg. sd. 10,846 ft.

Jeanerette—St. Mary Parish

Cajun Oil Co.'s No. 1 Roanes Sugar Co., Sec. 58-13s-8e. Drk.
Herton Oil Co.'s No. 10 Banta, Sec. 40-13s-9e. 10¾-in. csg. 2,950 ft.; drlg. 10,-418 ft.; 7⅝-in. csg. 10,374 ft.

Jefferson Island—Iberia Parish

Texas Co.'s No. 5 Jefferson Island, Sec. 58-12s-5e. 10¾-in. csg. 2,209 ft.; cg. sd. &sh. 7,810 ft.
Texas Co.'s No. 6, Jefferson Island, Sec. 59-12s-5e. Drk.
Texas Co.'s No. 3 State, Twp. 12s-5e. 7⅝-in. csg. 7,573 ft.; drlg. sdy. sh. 8,-217 ft.

Jennings—Acadia Parish

Shell Oil Co., Inc.'s No. 11 Community, Sec. 40, 10¾-in. csg. 1,721 ft.; T.D. 8,-135 ft.; fsg.
Stanolind O. & G. Co.'s No. 118 Crowley, Sec. 48-9s-2w. Drlg. sd.&L. 4,630 ft.
Stanolind O. & G. Co.'s No. 20 Houssiere-Latreille, Sec. 47-9s-2w. Drlg. sh.&L. 4,896 ft.

Kenilworth—St. Bernard Parish

Vendome Pet. Corp.'s No. 3 Kenilworth, Sec. 76-14s-14e. Drlg. sh. 3,220 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 16 L.L.&E., Lafitte, Sec. 17-17s-24e. T.D. 10,155 ft.; 7-in. csg. 10,154 ft.; perf. csg. 10,110-20 ft.; I.P. 756 B.P.D.; ¼-in. ck.
Texas Co.'s No. 6 Marrero, Sec. 21-17s-24e. 10¾-in. csg. 1,861 ft.; drlg. sd.& sh. 8,056 ft.
Texas Co.'s No. 4 State, Sec. 28-17s-24e. Drlg. sh.&L. 9,940 ft.

La Fourche Crossing—La Fourche Parish

Lisbon-Iberia Oil Co.'s No. 1 Joe Bergeron, Sec. 16-15s-17e. M.I.M.
Lisbon-Iberia Oil Co.'s No. 1 Prosper Thibodaux, Sec. 17-15s-17e. T.D. 10,-154 ft.
Mikton Oil Co.'s No. 3 Martinez, Sec. 13-15s-17e. 10¾-in. csg. 2,700 ft.; drlg. sh. &sd. 7,010 ft.

Lake Mongoulois—St. Martin Parish

Texas Co.'s No. 8 State, Sec. 10-10s-9e. T.D. 10,788 ft.; 7-in. csg. 10,788 ft.; perf. csg. 10,235-65 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 31 State, Sec. 8-23s-18e. T.D. 5,666 ft.; P.B.; sdtrkd.; drlg. 5,-715 ft.

Lake Salvador—Plaquemines Parish

California Co.'s No. 1 Delta Minerals, Lse. 5, Sec. 2-15s-24e. 20-in. csg. 135 ft. 13⅜-in. csg. 1,935 ft.; drlg. sh. 2,967 ft.

Leeville—La Fourche Parish

Texas Co.'s No. 73 Leeville, Sec. 27-21s-22e. Drlg. sh. 8,330 ft.

Neale—Beauregard Parish

Atlantic Ref. Co.'s No. 1 Musser-Davis Lbr. Co., Sec. 26-3s-11w. Drlg. sh. 5,-639 ft.
Atlantic Ref. Co.'s No. 1 Rice Ld. & Lbr. Co., Sec. 27-3s-11w. Loc.
Atlantic Ref. Co.'s No. 1 Spiers, Sec. 26-3s-11w. T. sd. 8,356-70 ft.; T.D. 8,440 ft.; 5½-in. csg. 8,440 ft.; perf. csg. 8,-355-70 ft.; I.P. 420 B.P.D.; 37.9-gr. oil; ¼-in. ck.

New Iberia—Iberia Parish

Acadian Prod. Co.'s No. 4 E. T. Weeks. Sec. 51-12s-7e. Loc.
Texas Co.'s No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co.'s No. 7 Bryant, Sec. 25-12s-7e Drlg. sdy. sh. 3,629 ft.
Texas Co.'s No. 16 Duke, Sec. 26-12s-7e. Drlg. 6,672 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 1 Quebodeaux, Sec. 45-8s-1e. Drlg. sd. 9,262 ft.
Humble O. & R. Co.'s No. 5 Stakes, Sec. 33-8s-1e. T.D. 8,955 ft.; perf. csg. 8,-109-12 ft.; I.P. 613 B.P.D.; ¼-in. ck.
Humble O. & R. Co.'s No. 6 Stakes, Sec. 33-8s-1e. Drk.

North Elton—Calcasieu Parish

W. T. Burton's No. 1 Calcasieu Natl. Bnk., Sec. 23-6s-3w. T.D. 8,035 ft.; abd.
W. T. Burton's No. 1 Pine Farms, Sec. 24-6s-3w. Loc.

Paradis—St. Charles Parish

Humble O. & R. Co.'s No. 1 Matthews & Olivera, Sec. 4-14s-20e. Loc.
Texas Co.'s No. 5 L.L.&E. Paradis, Sec. 6-14s-20e. Drk.
Texas Co.'s No. 1 Sunset Realty & Planting Co., Sec. 38-14s-20e. 10¾-in. csg. 2,716 ft.; drlg. sh. 10,310 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 14 St. Martin, Sec. 21-8s-7e. 18⅝-in. csg. 108 ft.; drlg. sdy. sh. 2,584 ft.

Port Barre—St. Landry Parish

Gulf Ref. Co.'s No. 16 Wilson Cochran, Sec. 4-6s-5e. T.D. 6,599 ft.; P.B.
McDannald Oil Co.'s No. 1 Sibille, Sec. 7-6s-6e. T.D. 5,488 ft.; S.D.; abd.
Sorrento Synd.'s No. 2 L. L. Barnard. 7-6s-6e. Loc.
Texas Co.'s No. 28 Botney Bay, Sec. 4-6s-5e. T.D. 6,136 ft.; 7-in. csg. 6,074 ft. I.P. 392 B.P.D.; 12/64-in. ck.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 44 Orleans Lv. Bd., Sec. 13-18s-15e. 16-in. csg. 284 ft.; drlg. sh. 3,986 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 6-A Orleans Lv. Bd., Sec. 7-19s-17e. Perf. csg. 8,195-96 ft.; I.P. 378 B.P.D.; ⅛-in. ck.
Gulf Ref. Co.'s No. 17 State, Twp. 19s-17e. 9⅝-in. csg. 8,431 ft.; T.D. 9,687 ft.; 5½-in. csg. 9,401 ft.; perf. csg. 9,-312-30 ft.
Gulf Ref. Co.'s No. 18 State, Twp. 19s-17e. Drlg. sh. 3,260 ft.
Gulf Ref. Co.'s No. 18 State, Twp. 19s-17e. Loc.

Sorrento—Ascension Parish

Pan American Prod. Co.'s No. 18 United Ld. Co., Sec. 15-10s-4e. T.D. 1,456 ft.; abd.
Pan American Prod. Co.'s No. 19 United Ld. Co., Sec. 15-10s-4e. Loc.
Sorrento Synd.'s No. 2 L. L. Bernard, Sec. 22-10s-4e. R.U.

South Jennings—Jeff Davis Parish

W. H. Collins' No. 1 Richard, Sec. 22-10s-3w. Drk.
Stanolind O. & G. Co.'s No. 1 W. H Adams, Sec. 14-10s-3w. T.D. 9,606 ft.; perf. csg. 8,650-64 ft.; tstg.
Stanolind O. & G. Co.'s No. 1 E. K. Atwell, Sec. 14-10s-3w. Drlg. sh. 9,442 ft.
Stanolind O. & G. Co.'s No. 1 Hebert, Sec. 21-10s-3w. Drlg. sh. 8,748 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co.'s No. 2 Fay, Sec. 31-10s-3w. T.D. 9,850 ft.; 7-in. csg. on bttm.

Starks—Calcasieu Parish

W. T. Burton & McLean's No. 2 Industrial Lbr. Co., Sec. 29-9s-12w. T.D. 5,-849 ft.; T. sd. 5,833 ft.; S.D.
W. T. Burton Oil Co.'s No. 1 Lutcher Moore Lbr. Co., Sec. 30-9s-12w. T.D. 4,810 ft.; 5½-in. csg. 3,990 ft.; fsg.

Sweet Lake—Cameron Parish

Pure Oil Co.'s No. 17 Stanolind O. & G. Co., Sec. 12-13s-8w. 9⅝-in. csg. 1,431 ft.; T.D. 7,769 ft.; I.P. 250 B.P.D.; ¼-in. ck.

Timbalier Bay-La Fourche

Gulf Ref. Co.'s No. 6 State, Sec. 36-23s-21e. Loc.

Valentine—La Fourche Parish

T. G. Markley et al's No. 2 Dousson, Sec. 100-17s-20e. T.D. 7,019 ft.; tstg.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 8 Buras Lv. dist., Sec. 22-21s-30e. 10¾-in. csg. 2,475 ft.; drlg. sh.&sd. 4,700 ft.
Tide Water Asso. Oil Co.'s No. 12 Manhattan Ld. Co., Sec. 85-21s-30e. Loc.

Vermilion Bay—Iberia Parish

Texas Co.'s No. 4-B Vermilion Bay, Twp. 16s-15e. 11¾-in. csg. 4,454 ft.; T. salt 5,855 ft.; 8⅝-in. csg. 7,546 ft.; cg. sd. 8,101 ft.

Ville Platte—Evangeline Parish

Amerada Pet. Corp.'s No. 1 J. Foret, Sec. 1-4s-2e. T.D. 10,170 ft.; perf. csg. 10,-066-72 ft. and 10,078-8,100 ft.; I.P. 649 B.P.D.; ¼-in. ck.
Continental Oil Co.'s No. 4-A Corell, Sec. 36-3s-2e. Drlg. sh. 7,329 ft.
Continental Oil Co.'s No. 3 Fontenot, Sec. 47-3s-2e. T.D. 9,503 ft.; fsg.
Continental Oil Co.'s No. 7 Fontenot, Sec. 3-4s-2e. T.D. 9,030 ft.; I.P. 297 B.P.D.; ⅛-in. ck.
Continental Oil Co.'s No. 5 Hass, Sec. 44-3s-2e. Drlg. sh. 9,997 ft.
Continental Oil Co.'s No. 5 Hirsch, Sec. 44-3s-2e. T.D. 10,229 ft.; tstg.
Contineintal Oil Co.'s No. 4 Tate, Sec. 1-4s-2e. T.D. 10,308 ft.; tstg.
Continental Oil Co.'s No. 1 J. E. Vidrine, Sec. 47-3s-2e. T.D. 9,113 ft.; perf. csg. 8,915-35 ft.; I.P. 168 B.P.D.; ¼-in. ck.
Continental Oil Co.'s No. 2 Vidrine, Sec. 1-4s-2e. Drlg. sh. 9,343 ft.
Danciger O. & R. Co.'s No. 3 Vidrine, Sec. 1-4s-2e. Drlg. sh. 9,826 ft.

West Cote Blanche—St. Mary Parish

Texas Co.'s No. 2 State, West Cote Blanche, Twp. 16s-6e. Drlg. sh. 8,570 ft.
Texas Co's No. 3 State, West Cote Blanche, Twp. 16s-6e. Loc.

White Castle—Iberville Parish

Jolly Pet. Corp.'s No. 1 E. B. Adams, Sec. 1-11s-12e. T.D. 9,002 ft.; 7-in. csg. 9,001 ft.; P.B. 8,896 ft.; perf. csg. 8,-927-32 ft.; I.P. 240 B.P.D.; ⅛-in. ck.
Shell Oil Co., Inc.'s No. 2 Forest Home. Drlg. sh.&L. 5,200 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co.'s No. 3 Johnson, Sec. 12-9s-6w. Drlg. sh. 7,828 ft.
Union Sulphur Co.'s No. 1 T. Miller, Sec. 6-9s-5w. Cg. 9,556 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Humble O. & R. Co.'s No. 1 F. E. Atkinson, Sec. 20-10s-1e. T.D. 9,385 ft.; abd.
Humble O. & R. Co.'s No. 1 Leger, Sec. 22-10s-1e. Loc.
Vincent & Welch et al's No. 1 R. McManus, Sec. 21-7s-1w. T.D. 3,537 ft.; 6-in. csg. 3,536 ft.

Assumption Parish

Shell Oil Co., Inc.'s No. 1 A. L. Patereau, Unit 1, Sec. 66-16s-14e. Drlg. sh. 3,-967 ft.

Beauregard Parish

Danciger O. & R. Co.'s No. 1 G. E. LeRoy, Sec. 2-3s-9e. 10¾-in. csg. 2,048 ft.; drlg. sh.&L. 6,436 ft.

Calcasieu Parish

W. T. Burton et al's No. 1 Mayo Realty Co., Sec. 8-11s-8w. Drlg. 50 ft.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp., Sec. 11-4s-8w. Well tried to blow out; stk. D.S.; sdtrkd. 3,775 ft.; 9⅝-in. csg. 9,583 ft.; T.D. 10,655 ft.; trying to control S.W. flw.
Superior Oil Co.'s No. 3 State, Sec. 1-14s-9w. Drlg. sdy. L. 7,449 ft.

East Baton Rouge Parish

Farris & Golding Drlg. Co.'s No. 1 Paulet, Sec. 58-8s-1e. 10¾-in. csg. 1,780 ft. S.D. 6,828 ft.; abd.

Iberville Parish

Falcon-Seaboard's No. 1 Folse, Sec. 11s-13e. 13⅜-in. csg. 2,335 ft.; drlg. sh. 2,-525 ft.

Jeff Davis Parish

H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. 10¾-in. csg. 2,115 ft.; 9⅝-in. csg. 9,006 ft.; T.D. 10,000 ft.; 7-in. csg. 10,000 ft.; sqz. perf. 9,703-20 ft.; W.O.C.
Union Sulphur Co.'s No. 1-A Calcasieu Natl. Bnk., Sec. 2-8s-4w. R.U.

Jefferson Parish

Shell Oil Co., Inc.'s No. 1 State, Sec. 27-20s-24e. Driving piling.
Vendome Pet. Co.'s No. 1 Coulon, Sec. 15-15s-23e. Drlg. sd.&sh. 10,496 ft.

La Fourche Parish

Ernest Cockrell's No. 1 La Fourche Ld. Co., Sec. 32-18s-22e. 10¾-in. csg. 650 ft.; T.D. 2,988 ft.; T.A.
Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co., Sec. 69-15s-19e. T.D. 12,512 ft.; perf. csg. 12,230-40 ft.; rec. S.W.
Humble O. & R. Co.'s No. 1 Caldwell Sugars, Inc., Sec. 115-14s-15e. 13⅜-in. csg. 2,988 ft.; 9⅝-in. csg. 10,921 ft.; T.D. 12,600 ft.; abd.

Orleans Parish

W. T. Burton Co.'s No. 3 State-Lake St. Catherine, Twp. 11s-14e. Loc.

Plaquemines Parish

Gulf Oil Corp.'s No. 1-E Buras Lv. dist., Sec. 1-23s-19e. T.D. 9,287 ft.; 9⅝-in. csg. 9,269 ft.; drlg. sh. 9,320 ft.
California Co.'s No. 1 Delta Minerals, Sec. 2-15s-24e. 13⅜-in. csg. 2,028 ft.; T.D. 10,246 ft.; 7-in. csg. 10,188 ft.; perf. csg. 9,963-66 ft.; tstg.

Rapides Parish

Gulf States' No. 1 Long Bell Lbr. Co., Sec. 46-4n-3w. S.D. 55 ft.

St. Charles Parish

Celestine Oil Co.'s No. 1 Celestine plantation, Sec. 17-11s-4e. Drlg. sh. 750 ft.
Texas Co.'s No. 1 State-Lake Salvador, Twp. 16s-22e. Loc.

St. James Parish

Arcadian Prod. Co.'s No. 1 Celstine Plant, Sec. 74-11s-4e. T.D. 1,244 ft.

St. Mary Parish

E. G. Bateman et al's No. 1 W. P. Foster, Sec. 38-15s-9e. Loc.
Sun Oil Co.'s No. 1 Belle Isle, Sec. 6-18s-11e. T.D. 7,408 ft.; P.B. 7,163 ft.

Terrebeans Parish

Stanolind O. & G. Co.'s No. 1 State (Bay Junop), Sec. 35-21s-14e. 20-in. csg. 95 ft.; drlg. 790 ft.
Texas Co.'s No. 5 State, Coon Point, Twp. 23s-14e. Loc.

Vermilion Parish

I. Delcambre's No. 1 Renard, Sec. 17-13s-5e. S.D. 825 ft.
Union Oil Co. of Calif.'s No. 1 Walter White hrs., Sec. 17-15s-1e. 13⅜-in. csg. 2,800 ft.; T.D. 10,395 ft.; P.B.; sdtrkd.; drld. to 10,277 ft.; 7-in. csg. 10,274 ft.; drlg. sh. 10,364 ft.

TEXAS

Week Ended June 15

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 2 Mettler. T.D. 10,501 ft.; 7-in. csg. on bttm.
Sun Oil Co.'s No. 1 Morris Stern, Shubal Marsh Sur. 18⅝-in. csg. 128 ft.; T.D. 10,751 ft.; 7-in. csg. on bttm.

Old Ocean—Brazoria County

Fidelity O. & R. Co.'s No. 1 Chenault, C. Breen Sur. Drlg. sh. 1,532 ft.
Harrison & Abercrombie's No. 8 Bernard, C. Breen Sur. Drlg. sh.&sd. 9,130 ft.
Harrison & Abercrombie's No. 1 Dailey, C. Breen Sur. Drlg. L.&sh. 4,954 ft.
Harrison & Abercrombie's No. 1 Mueller et al, M. M. Nuckols Sur. Drlg. sh.& shls. 9,594 ft.
Harrison & Abercrombie's No. 1 A. F. Wilson, D. McCormick Sur. T.D. 10,-409 ft.; tstg.
Stanolind O. & G. Co.'s No. 2 Giles, C. Breen Sur. T.D. 10,970 ft.; 5½-in. csg. 10,969 ft.
Stanolind O. & G. Co.'s No. 1 Stevenson-Donovan, Inia Keep Sur. 9⅝-in. csg. 7,039 ft.; T.D. 10,750 ft.; 5½-in. csg. 10,479 ft.

Sun Oil Co.'s No. 4 Borsodi, C. Breen Sur. 13⅜-in. csg. 1,520 ft.; 9⅝-in. csg. 7,009 ft.; T.D. 11,085 ft.; perf. csg. 10,-705-38 ft.

Sun Oil Co.'s No. 5 McCampbell, C. Breen Sur. T.D. 10,540 ft.; 7-in. csg. on bttm.

South Cotton Lake—Chambers County

Humble O. & R. Co.'s No. 1 E. E. Barrow, S. Barrow Sur. T.D. 8,865 ft.; abd.

Willow Slough—Chambers County

Sun Oil Co.'s No. 3 R. J. Barrow, A. Ybarbo Sur. Drlg. sh.&sd. 8,669 ft.

League City—Galveston County

Phillips Pet. Co.'s No. 1 Herrick & Martin, S. F. Austin Sur. R.U.

Phillips Pet. Co.'s No. 1 Parr, Perry & Austin Sur., Lot 9. T.D. 9,388 ft.

Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg 9,510 ft.; T.D. 11,270 ft.; well blew out; killed; P.B.; sdtrkd.; T.D. 10,298 ft.; fsg.

Alta Loma—Galveston County

Stanolind O. & G. Co.'s No. 2 J. A. Hulen, A. Brigham Sur. Loc.

Stanolind O. & G. Co.'s No. 3 J. A. Hulen, A. Brigham Sur. Loc.

Aldine—Harris County

Titanic Oil Co.'s No. 1 Weary, Lots 21 and 20, E. Farias Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 42 Humble-West, G. B. McKinstry Sur. Drlg. sh. 5,860 ft.

Humble O. & R. Co.'s No. 1 Martyn, Wm. Doble Sur. 9⅝-in. csg. 1,015 ft. drlg. sd. 5,926 ft.

Lolita—Jackson County

Magnolia Pet. Co.'s' No. 1 Four Way ranch, I.&G.N. Sur., Blk. 1, Sec. 11. R.U.

Magnolia Pet. Co.'s No. 1 O. G. Hinshaw, S. F. Austin Sur. 5. Loc.

Magnolia Pet. Co.'s No. 1 Mitchell, S. F Austin Sur. 5. Loc.

Wellington Oil Co.'s No. 2 L. Ranch Co. Blk. 1, Sec. 11, I.&G.N. Sur. Drlg. sh. 3,220 ft.

Farnett—Jefferson County

Gulf Oil Corp.'s No. 5 Bordages, J. Probarth Sur. Drlg. sh. 7,315 ft.

La Belle—Jefferson County

Sun Oil Co.'s No. 1 Foltz, Sur. 376, 9⅝-in. csg. 7,600 ft.; T.D. 8,683 ft.; made sqz. job; W.O.C.

South China—Jefferson County

Pan American Prod. Co.'s No. 1 Neal. R.U.

Titanic Oil Co.'s No. 3-A Broussard, S. Miles Sur. Loc.

Esperson—Liberty County

General Crude Oil Co.'s No. 20 Davis, A. McNeil Sur. 8⅝-in. csg. 7,181 ft.; T.D. 9,734 ft.; P.B. 7,650 ft.; perf. csg. 7,-055-7,105 ft.; I.P. 68 B.P.D.; ⅛-in. ck.

General Crude Oil Co.'s No. 21 Davis, D. Kokernot Sur. R.U.

General Crude Oil Co.'s No. 12-B Esperson, A. McNeil Sur. Loc.

Wilson Creek—Matagorda County

Barnsdall Oil Co.'s No. 1 Stoddard, G. B. M. Cotton Sur. 9⅝-in. csg. 7,895 ft.; T.D. 10,298 ft.; I.P. 440 bbl. dist. per day; various cks.

Ace—Polk County

Shell Oil Co., Inc.'s No. 2 Kirby West Lbr. Co., P. A. Sublett Sur. Drlg. sh. &L. 9,286 ft.

Segno—Polk County

Gordon Oil Co.'s No. 10-A Wing, I.&G. N. Sur. 15. Drlg. sh. 6,389 ft.

Gulf Oil Corp.'s No. 4 Quinn, A. Morales Sur. R.U.

Gulf Oil Corp.'s No. 35 Wing, I.&G.N. Sur. 13. Drlg. sh.&L. 7,565 ft.

Gulf Oil Corp.'s No. 37 Wing, I.&G.N. Sur. 15. Drlg. sh.&L. 6,710 ft.

Humble O. & R. Co.'s No. 24-B Kirby Lbr. Co., M. Victor Sur. Drlg. sh. 3,-520 ft.

Joe's Lake—Tyler County

Republic Prod. Co.'s No. 37 fee, N. Hurd Sur. Drlg. sh. 7,220 ft.

Republic Prod. Co.'s No. 38 fee, N. Hurd Lge. Drlg. sh. 2,526 ft.

Dick Schwab et al's No. 1 Nona Fletcher Lbr. Co., E. Thompson Sur. Drlg. sh. 7,520 ft.

Hilje—Wharton County

Texas Co.'s No. 1 A. R. Benner et al, E.T.R.R. Sur., Sec. 101. Loc.

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Glenn McCarthy's No. 1 W. B. Munson, Samuel Carter Sur. Drlg. sh.&sd. 11,-538 ft.

Rowan & Nichols Oil Co.'s No. 1 Hubbard, Wm. Harris Sur. 10-min. D.S.T. 9,107-34 ft.; rec. 128 ft. mud and dist.; T.D. 10,008 ft.; cutting sidewall cores.

Chambers County

Humble O. & R. Co.'s No. 1 State, Sec. 247, Galveston Bay. Drlg. sh. 9,005 ft.

Humble O. & R. Co.'s No. 1 State, Sec. 288, Galveston Bay. Loc.

Sun Oil Co.'s No. 1 Clara C. Smith, T.& N.O. Sur. 82. Drlg. sh. 8,785 ft.

Colorado County

Cockburn Oil Corp.'s No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Shell Oil Co., Inc.'s No. 1 R. H. Goodrich, H. Heller Sur. Drlg. sh.&L. 5,690 ft.

Fort Bend County

H. C. Cockburn's No. 1 G. W. Burkett, **Bundieck Sur. Loc.**

Superior Oil Corp.'s No. 2 A. P. George, A. B. Keller Sur. 10¾-in. csg. 1,816 ft. drlg. sh. 5,600 ft.

Galveston County

Stanolind O. & G. Co.'s No. 1 J. A. Hulen, A. Brigham Sur. 13⅜-in. csg. 2,-470 ft.; T.D. 9,166 ft.; flwg. 581 B.F. P.H., 70% b.s. and S.W.

Harris County

Christian-Carpenter Drlg. Co.'s No. 1 Anderson, J. C. Anderson Sur. 10¾-in. csg. 810 ft.; T.D. 6,470 ft.; P.B.; sdtrkd.; drlg. sh. 5,612 ft.

Gulf Oil Corp.'s No. 1 H. H. Roberts, A. Roberts Sur. T.D. 7,583 ft.. S.D.

Wm. Hobson's No. 1 N. N. Allen, Blk. 12, Geo. Green Sur. 10¾-in. csg. 725 ft. drlg. sh. 6,250 ft.

Joyce Richardson's No. 1 Marks, J. C Ogburn Sur. T.D. 7,248 ft.; 5½-in. csg. 7,128 ft.

G. F. Steger's No. 1 Trahan, E. Ruhl Sur. Loc.

Jackson County

Barnsdall Oil Co.'s No. 1 Lozarus, S. F. Austin Sur. T.D. 5,932¼ ft.; perf. csg. 5,924-29 ft.; I.P. 60 B.P.D.; 5/64-in. ck.

W. S. Boyle's No. 1 Beenview Dev. Co., V. Garcia Sur., Blk. 35. Loc.

John Mayo and Kirkpatrick Drlg. Co.'s No. 1 J. H. Tucker, R. Musquez Sur. 10¾-in. csg. 505 ft.; drlg. sh. 4,516 ft.

Jefferson County

Merrimac Oil Corp.'s No. 1 State, Tr. 72, **50 ft. due E of Harwell's abd. hole W.O.; R.U.**

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. 7-in. csg. 8,700 ft.; T.D. 9,312 ft.; perf. lnr. 8,955-75 ft.; swbd. S.W.; perf. lnr. 8,770-8,807 ft.; rec. S.W.; abd.

Matagorda County

Texas Gulf Prod. Co.'s No. 1 Gulf Tex. **Oil Co., Ira Ingram Sur. Drk.**

Texas Co.'s No. 1 A. B. Pierce, H.&G. N. Sur., Sec. 1, Blk. 65. Drlg. sh. 8,-920 ft.

Texas Co.'s No. 2 R. V. Taylor, F. George Sur. Drlg. sh. 5,706 ft.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld. and De Crow Sur. Loc.

Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. 13⅜- in. csg. 1,243 ft.; T.D. 11,213 ft.; 9⅝-in. csg. 7,200 ft.; sdtrkd.; drld. to 11,-250 ft.; P.B. 10,219 ft.; fsg.

David B. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; T.D. 9,741 ft.; 5½-in. csg. on bttm.; perf. csg. est. 9,300-9,400 ft.; reperf. csg. 9,302-9,425 ft.; swbg.

San Jacinto County

Harrison & Abercrombie's No. 1 W. S Dixon, Solomon Cole Sur. T.D. 8,820 ft.; abd.

Shell Oil Co., Inc.'s No. 1 Coldine, J Rankin Sur. Rec. 9 B.O. and 9 bbl. S.W.; D.S.T. 7,815-7,790 ft.; drlg. sh. 9,520 ft.

Washington County

J. A. Deering's No. 1 C. W. Bohne, 5 Gates Sur. S.D. 6,545 ft.

Mount Selman Oil Co.'s No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 5,-962 ft.

Standard Oil Co. of Kansas' No. 1 Kamas, S. M. Williams Sur. 10¾-in. csg. 583 ft.; drlg. 2,630 ft.; no report; "tight well."

Wharton County

Eura B. Oil Co.'s No. 1 Hamburger, W. C.R.R. Sur. 65. Loc. abd.

Eura B. Oil Co.'s No. 1 Maerz, John T. Rives Sur., Sec. 64. R.U.

Sam Harrison's No. 1 Carlson, Morris & Cummins Sur., Sec. 3. O.W.D.D.; T.D 6,510 ft.; perf. csg. 5,806-09 ft.; well went dead; R.U. to pmp.

Magnolia Pet. Co.'s No. 2 A. P. Borden, E. M. Coy Sur. Drlg. sh. 2,630 ft.

Titanic Oil Co.'s No. 1 Kountze, Morris & Cummings Sur., Sec. 3. Drlg. sh. 5,726 ft.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 2 St. Charles Co., R. D. Blassman Sur.; (relief well to blow out); T.D. 8,406 ft.

Atascosa County

H. M. Hill et al's No. 1 Campbell, Chas. Mason Sur. 128. R.U.

Walter Pope's No. 1 Countiss, A.B&M. Sur. 1013. S.D. 715 ft.

Bastrop County

August Bering's No. 1 Rivers, B. Osborne Sur. Drlg. 1,412 ft.

C. R. Franklin's No. 1 Oscar McDonald, Martha Baker Sur. T.D. 2,232 ft.; 5½- in. csg. 1,500 ft.; S.D.

W. C. McGlothlin et al's No. 1 Bill, Albert Black Sur. T.D. 3,154 ft.; 5½-in. csg. 3,143 ft.; rec. small amt. of oil; by swbg.; drld. to 3,152 ft.; swbg.

Ogden & Riddle's No. 2-B Riddle, J. B. Blalock Sur. R.U.

Ogden & Riddle's No. 6 Riddle, J. B Blalock Sur. T.D. 2,244 ft., cik.; 5½-in. csg. 2,005 ft.; abd.

Bee County

Mills Bennett Prod. Co. and Anderson-Prichard Oil Corp.'s No. 2 Robinson, J. M. Uranga Sur. (Wlx. test, West Tuleta field). 13-in. csg. 2,537 ft.; 9⅝ in. csg. 7,804 ft.; T.D. 9,210 ft.; perf. csg. 7,545-50 ft.; tstd. 6½ bbl. dist. per hr., ¼-in. ck. on tbg.; T.P. 2,600 lb.; C.P. 2,250 lb.; S.I.; W.O.

Suitex Oil Co.'s No. 1 Wood, Jas. McGeehan Sur. 7-in. csg. 6,162 ft.; T.D. 6,306 ft.; perf. csg. 5,324-34 ft.; rec. S.W.; abd.

Bell County

J. J. Cormas' No. 1 Jeff Ellis, Elizabeth Berry Sur. S.D. 493 ft.

Bexar County

C. G. Bigby's No. 1 Mauermann, Fermando Rodriguez Sur. T.D. 490 ft.

Joe Noake's No. 1 San Antonio Sub. Irrg. Farm, W. Miller Sur. 180. S.D. 860 ft.

Roger Putnam's No. 1 Conaway, John H. Lucas Sur. 54. S.D. 540 ft.

Jos. Turner et al's No. 1 John Brown, T. H. Hobbs Sur. 357. T.D. 4,023 ft.

Brooks County

West Prod. Co.'s No. 1 J. D. Cage, G.C.& S.F. Sur. 31. R.U.

Burleson County

H. Y. Barnett's No. 1 Fick. J. S. Cox Sur. S.D. 2,004 ft.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. T.D. 1,897 ft.; 6⅝-in. csg. 1,732 ft.

Weygand Bros.' No. 1 W. C. Hill, John D. Rains Sur. Drlg. sh. 400 ft.

Calhoun County

Coronado Corp.'s No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; reported to be tstg.; 5½-in. csg 9,750 ft.; perf. csg. 9,130-54 ft.; rec. S.W.

Ray Ranger et al's No. 1 W. R. Sells, Sam Houston Sur. Drlg. sh. 8,117 ft.

Cameron County

Sal Vieja Oil Co. et al's No. 1 Garcia Santa Isabel gr. 8⅝-in. csg. 8,322 ft.; T.D. 10,307 ft.; set 471 ft. of 5-in. lnr. 8,603 ft.; perf. csg. 8,492-98 ft. and 6,730-40 ft.; rec. S.W.

Duval County

Bridwell Oil Co.'s No. 1-A Rogers, J. Poltevent Sur., Sec. 21. Rec. 210 ft. oil; 10-min. D.S.T. 4,321-27 ft.; T.D. 4,-327 ft.; 5½-in. csg. 4,321 ft.; perf. csg. 4,323-26 ft.; tstd. dry gas; killed; recomp.

W. L. Catlin et al's No. 1 Louis Escapule, J. Poltevent Sur. 73. R.U.

Diamond-Half Oil Corp.'s No. 1 Cantu, Ponciano Alanis Sur. R.U.

Frank Frohnoefer's No. 1 V. Carrillo, A. Cantus Sur. R.U.

Magnolia Pet. Co.'s No. 1 Sinclair hrs., F. C. and C. K. Gravis Sur. 510. Drlg. 2,426 ft.

Providence Oil Corp.'s No. 1 C. Driscoll, I.&G.N. Sur., Sec. 138. Loc.

Sun Oil Co.'s No. 1 Garcia, A.B.&M. Sur., Sec. 407. T.D. 5,087 ft.; 5½-in. csg. 4,-959 ft.; perf. csg. 4,900-10 ft.; I.P. 11 B.P.D.; pmpg.

Gillespie County

E. L. Nixon's No. 1 Mayford, Pedro Cobrera Sur. 29. S.D. 160 ft.

Goliad County

J. K. Culton's No. 1 S. E. Cole, Goliad Town Tr. Loc.

Tom Graham Oil Co.'s No. 1 R. H. Wood, D. Morris Sur. Drlg. sh. 4,925 ft.

Gonzales County

M. T. Huebner's No. 1 M. P. Smith, R. Plummer Sur. T.D. 1,135 ft.

Hidalgo County

Gulf State Oil Co.'s No. 2 Cardinas, San Salvador del Tule gr. 16-in. csg. 157 ft. T.D. 8,700 ft.; perf. csg. 7,315-30 ft.; flwd. 35 bbl. dist. and 5,600,000 cu. ft.

Jim Hogg County

Achning-Daubert's No. 1 Wood, Sabas de la Garza Sur. 82. Rec. 180 ft. oil; 15-min. D.S.T. 2,607-14 ft.; 7-in. csg. 2,-607 ft.; I.P. 117 B.P.D.; ¼-in. ck.; T.P. 285 lb.; C.P. 450 lb.

French Oil Corp.'s No. 3 Pena, G. W. Rose Sur. 574. Loc.

Humble O. & R. Co.'s No. 3 Mestena O. & G. Co., San Antonio de Baluarte gr., Sec. 392. Drlg. 5,099 ft.

R. A. Welch's No. 2 Hachar, Sur. 266, 10¾-in. csg. 105 ft.; S.D. 3,115 ft.

Jim Wells County

Henshaw Bros.' No. 1 L. L. Allen, Casa Blanca Sur. R.U.

Hewitt & Daugherty's No. 1 Carver, I.& G.N.R.R. Sur. R.U.

H. H. Howell's No. 1 San Antonio Joint Stock Ld. Bnk., Lopez gr., Sec. 9, Blk. 14. T.D. 6,556 ft.; 5½-in. csg. 5,740 ft. perf. csg. 5,649-54 ft.; rec. S.W.

H. H. Howell and Tesemelis' No. 1 D. C. Daniels, M. Berrera gr. Loc. abd.

M. M. Miller & Son's No. 1 T. M. Gallagher, Casa Blanca gr. T.D. 5,624 ft.; 7-in. csg. 5,247 ft.; perf. csg. 5,187-95 ft.; I.P. 110 B.P.D.; ⅛-in. ck.

Karnes County

Jack Frazier's No. 1 Cochran, Daniel B. McConnell Sur. T.D. 2,354 ft.; S.D.

Hewitt & Daugherty's No. 1 J. M. Newberry, C. Martinez Sur. T.D. 3,300 ft.; abd.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R. Davis Sur. 20. S.D. 1,415 ft.

Kimble County

Austin Bridge Co.'s No. 1 Wilkinson, Brooks & Burleson Sur. S.D. 823 ft.

J. C. Renfro's No 1. D. C. Morales, Hrs. of H. Grote Sur. 423. T.D. 1,495 ft.; S.D.

Schwab-Carlyle & Auld's No. 1 Baker, F. C. Stisser Sur. Drlg. 1,512 ft.

Kleberg County

Skelly Oil Co.'s No. 1 State, Laguna de Los Olmos gr., Tr. 385. 7⅝-in. csg. 7,-669 ft.; drlg. sh. 9,467 ft.

La Salle County

H. R. Cullen's No. 1 A. L. Washburn, H. &G.N. Sur. 67. Rec. 150 ft. gas-cut mud; S.O.; D.S.T. 4,740-4,805 ft.; drlg. sh. 6,869 ft.

Lee County

Fred Pederson et al's No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft.; 5½-in. lnr. cmtd. 8,201 ft.; drlg. L. 8,380 ft.

Live Oak County

Luling O. & G. Co.'s No. 2 Northern Royalty Corp., G.H.&H. Sur. 1. Drlg. 850 ft.

L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

W. F. Ashby's No. 1 Enlaw, D. M. Stapp Sur. 27. S.D. 1,310 ft.

H. F. Baker's No. 1 Galloway, G. R. Galloway Sur. 34. Drlg. 160 ft.

Cities Service Oil Co.'s No. 1 H. W. Rhode, Seale & Morris Sur. 13. Drlg. sh. 2,217 ft.

Jake Jarmon's No. 1 Hayter, B.S.&F. Sur. 105. Drk.

McCormick-King Prod. Co.'s No. 1 Shiner, Jose Alderete Sur. 14. R.U.

Medina County

W. D. Bacon's No. 1 Wurzbach, Juan Delgado Sur. 37½. T.D. 420 ft.; 8¼-in. csg. 420 ft.; S.D.

G. R. and L. J. Dorsey's No. 1 Robertson, John George Sur. S.D. 310 ft.

Nueces County

Humble O. & R. Co.'s No. 1 State, Nueces Bay, Tr. 723. 10¾-in. csg. 1,712 ft.; cd. gas sd. 3,978-4,022 ft.; drlg. 4,200 ft.

John Manley et al's No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
Pure Oil Co.'s No. 1 S. Little, S. Ward Sur. 194. 13⅜-in. csg. 179 ft.; drlg. sh. 7,725 ft.
Richardson Pet. Co.'s No. 1 Boy Scouts of America, M. L. De Herrera gr. (Robstown field). Drk.
Southern Minerals Corp.'s No. 1 Community, Paso Ancho de Abajo gr. T.D. 6,578 ft.; 7-in. csg. on bttm.; rec. 900 ft. P.L.O.; D.S.T. 6,373-43 ft.
Stanolind O. & G. Co.'s No. 1 State, C. M. Blucher Sur., Tr. 746, 1½ mi. S of E. White Point field. Loc.
Texas Conservative Oil Co.'s No. 1 Isensee, Gregorio Farias Sur. Drlg. sh. 4,190 ft.

Refugio County

C. L. Norsworthy's No. 1 T. C. Holeman, M. Reilly Sur. T.D. 6,509 ft.; 5½-in. csg. 2,160 ft.; perf. csg. 1,970-90 ft.; I.P. gas well.

San Patricio County

W. S. Boyle and R. Wimberly's No. 1 R. L. Hodges. Drlg. sh. 2,246 ft.

Starr County

A. L. Bone et al's No. 3 Garcia, Juan Salinas Porc. 71. S.D. 402 ft.
Lynes & Robertson's No. 1 Villareal, C. C.S.D.&G.N.R.R. Sur. 241. Loc.
Sun Oil Co.'s No. 1 Claude King, C.C.S. D.&R.G.N.G.R.R. Sur. 511. Cg. 4,147 ft.
Syndicate Oil Corp.'s No. 1 Sanchez, Santos Sanchez Sur. 344. T.D. 1,004 ft.

Travis County

J. H. Sprouls and A. G. Hinn's No. 1 A. D. Balm, Santiago de Valle gr. T.D. 1,273 ft.
Ralph R. Tanner's No. 1 Felix Cherico, Santiago del Valle Sur. S.D. 660 ft.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. T.D. 2,002 ft.; rmg.

Victoria County

Colton & Colton's No. 1 Terrell, J. B. Sideck Sur. T.D. 5,285 ft.; 7-in. csg. 5,284 ft.; prod. decreased to 1½ B.P.H.; prep. to dpn.
Colton & Colton's No. 1 Wray, C. L. Thurmond Sur. R.U.
Humble O. & R. Co.'s No. 1 E. N. Nave, M. J. Treaviesa gr. Drk.
Pacific Irwin O. & G. Co.'s No. 1-B Keeran, M. de Leon Sur. Drlg. sh. 4,535 ft.
S. W. Richardson's No. 1 Keeran, M. de Leon Sur. Drlg. sh. 6,945 ft.
S. J. Ryan's No. 1 Bankers Mortgage Co., A. Esparza Sur., Lot 1, Blk. 2. 10¾-in. csg. 601 ft.; T.D. 6,450 ft.; abd.
Geo. Smith's No. 1 Reiman, M. Zepeda Sur. T.D. 3,305 ft.; abd.
C. S. Sollars' No. 1 Knolle, Casiano Sambrano Sur. T.D. 3,527 ft.; abd.
Texas Gulf Prod. Co.'s No. 1 Kester, C. M. Creanor Sur. T.D. 6,881 ft.; perf. csg. 5,883-85 ft.; reperf. 5,103-05 ft.; I.P. 15 bbl. dist. per day; ¼ and ⅛-in. cks.
Texas Gulf Prod. Co.'s No. 1 Wiseheart, F. Perez Sur. 10¾-in. csg. 1,023 ft.; drlg. sh. 6,212 ft.

Webb County

Glenda Oil Co.'s No. 1 Salvado ranch, Sec. 657, J. V. Borrego gt. Cd. sd. 1,001-08 ft.; 5½-in. csg. 1,002½ ft.; swbd. S.W.; S.S.O.; abd.
H. E. Hall's No. 1 Slator, Mission Oil Co., J. V. Borrego gr. 7-in. csg. 1,456 ft.
Locke Purnell's No. 2 Kirkpatrick, C.S. D.&R.G.N.G.R.R. Sur. 57. T.D. 2,321 ft.; abd.
M. L. Massingill's No. 2 Kirkpatrick, C. C.S.D.&R.G.N.G. Sur. 59. Loc.
Fred Schwab's No. 1 W. C. Billings, Tom Dillars Sur. 42. Loc.
Tide Water Asso. Oil Co.'s No. 8 Bruni. M. Arispe gr.: (deep test, Bruni field) Drlg. sh. 769 ft.

Williamson County

Jas. Criswell's No. 1 R. Z. Baker, Theophilis W. Metcalf Sur. S.D. 500 ft.
C. C. Lanier's No. 1 Guental, Harry Cooke Sur. S.D. 1,500 ft.
C. D. Lane's No. 1 Krieg, H.T.&B. Sur. 3. Drlg. L. 1,410 ft.
Wm. C. McGlothlin's No. 1 Swenson, Wm. Byerly Sur. 24. Drlg. L. 2,204 ft.

Wilson County

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.

Zapata County

Jack Giblin et al's No. 1 Haynes, Villa gr. Loc. abd.
Hawkeye Pet. Co.'s No. 1 Uribe, J. V. Borrego Sur. Cg. sh. 2,903 ft.

Zavala County

H. F. Wilcox O. & G. Co.'s No. 6 Gilliam, Pedro Mesa Sur. 12. T.D. 3,922 ft.; bailing.
H. F. Wilcox O. & G. Co.'s No. 1 Voigt, Jas. Crabtree Sur. 30. T.D. 4,035 ft.
H. F. Wilcox O. & G. Co.'s No. 1 Webb & Brown, J. M. Polk Sur. Drlg. sh. 70 ft.

WEST TEXAS WILDCATS

Andrews County

Atlantic Refg. Co.'s No. 1-2 University, Sec. 2, Blk. 11, Univ. Lds. Sur. Drlg. 3,400 ft.
Atlantic Refg. Co.'s No. 1-23 University, Sec. 23, Blk. 11, Univ. Lds. Sur. Drlg. 2,600 ft.
Helmerich & Payne, Inc.'s No. 1 University, Sec. 11, Blk. 11, University Sur.; 5,500-ft. test. Flwg. 10 B.O.P.H.; prep. D.D. 4,425 ft.

Brewster County

J. W. Quinn, Tr.'s No. 1 S. L. Strumburg, NW cor. SE Sec. 70, Blk. G, M.K &T.E. Sur. 2,500 ft. test. Loc.

Cochran County

Texas Co.'s No. 1-F Mallett Land & Cattle Co., SW cor. Labor 25. Lge. 51. Scurry C.S.L. Sur. Drlg. 4,355 ft.

Concho County

Floyd Dodson's No. 1 Wilson, Thomas Green Sur. 1; 3,500-ft. test. S.D.; csg. 3,398 ft.

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 6,670 ft.
Gulf Oil Corp.'s No. 1-F University, SE SE Sec. 22, Blk. 31, Univ. Sur. Drlg. 965 ft.
Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft.; S.O. 3,215-20 ft.; S.S.G. 3,695 ft.; 8-in. csg. cmtd. 3,713 ft.; S.O. wtr. 3,768 ft.; tstg. 3,780 ft., mostly wtr.; drlg. 4,255 ft.
Gulf Oil Corp.'s No. 31 Waddell Sec. 5 Blk. 24-B, P.S.L. Sur. Drlg. 3,827 ft.

Crockett County

Finance Oil Co.'s No. 1 Hoover, NW cor. SE Sec. 10, Blk. 1, G.C.&S.F. Sur. Spdr. on loc.
Gregory & McCandless' No. 1 Shannon estate, 1,787 ft. from S and 3,107 ft. from E lines of Lge. 3, Archer C.S.L. Sur. M.I.M.
Lewis & Shannon's No. 1 Noelke, SW cor. NE Sec. 30, Blk. GG, H.E.W.T. Sur. Top Yates sand 900 ft.; made 35 B.O.P.D.; tstg.; T.D. 1,100 ft.; tstg.
M. & M. Drlg. Co.'s No. 1 G. Bouscaren, SE cor. NW Sec. 29, Blk. G.G., H.E.& W.T. Sur., 1 mi. N of Soma discovery well. Prep. spud.
Mauldin & Solmon's No. 1 Noelke, SE cor. Sec. 56, Blk. G.G., H.E.&W.T. Sur., ¾ mi. NW of Soma discovery well. Prep. spud.
Moore Expltn. Co.'s No. 1 A. C. Hoover, Sec. 16, Blk. 1, G.C.&S.F. Sur. W.O.C. 2,100 ft.; S.S.O. 1,920-2,100 ft. Drlg. 2,112 ft., had rainbow show at 2,100 ft.
Moore Expltn. Co.'s No. 1 Noelke, Sec. 10, Blk. G.G. Made 7 B.O.P.D. swbg. from 2,150-2,233 ft.; pump. 7 bbl. oil hourly after acid from 2,338-71 ft.; pumped 129 B.O.P.D.; T.D. 2,371 ft. S.I.

Culberson County

Cothran et al's No. 1 Casey-Rounsaville, C SW¼ Sec. 7, Blk. 104, P.S.L. Sur. R.U.M.

Dawson County

Ray Albaugh's No. 2 Robinson, NW NW Sec. 54, Blk. M, E.L.R.R. Sur. Drlg. 5,073 ft.

Ector County

Stanolind O. & G. Co.'s No. 1-C J. L. Johnson, SE NE Sec. 32, Blk. 43, T.&P. Sur. Loc.

Gaines County

Richmond Drlg. Co. et al's No. 1 G. R. Brumley, NE NE Sec. 17, Blk. 12-A, P.S.L. Sur. Drlg. 4,590 ft.

Howard County

R. M. Huff's No. 1 E. W. Douthitt, 330 ft. from W and 2,310 ft. from S lines of Sec. 116, Blk. 29, W.&N.W. Sur. S.D.R. 335 ft.
C. T. McLaughlin's No. 1 Pete Johnson, NE NE Sec. 34, Blk. 32, Twp. 1n, T. &P. Sur. Drlg. 350 ft.
M. L. Richards' No. 1 Thelma J. Cole, SE NW Sec. 12, Blk. 36, H.&T.C. Sur. 3,500-ft. test. Drlg. 650 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co.'s No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.& P. Sur. T.D. 6,175 ft.; rng. 5⅛-in. csg.

Mitchell County

B.R.S. Oil Co.'s No. 1 M. A. Berry, 407 ft. from S and E lines of Sec. 53, Blk. 97, H.&T.C. Sur. Drlg. 1,058 ft.
Dockery & Robbins' No. 1 C. G. Crawford, SW SW Sec. 13, C. A. O'Keefe subd. Prep. drill ahead below 250 ft.
J. B. Ewing's No. 1 L. A. Strain, 330 ft. from N and 2,970 ft. from W lines of Sec. 63, Blk. 97, H.&T.C. Sur. Spdg.
Ewing & Hanes' No. 1 G. I. Grable, Sec. 196, Blk. 3, H.&G.N. Sur.; 1,300-ft. test. Pulled 7-in. and rerun to 1,485 ft., bailing.
N. V. Hilburn's No. 1 B. W. Jackson, NE cor. NW Sec. 82, Blk. 97, H.&T.C. Sur., in same section as No. 1 Strain. S.D. 50 ft.; prep. D.D.
N. V. Hilburn's No. 1 E. T. Strain, Sec. 82, Blk. 97, H.&T.C. Sur. S.D.O. 1,790 ft.; drld. sat. 1,706-32 ft. and 1,736-39 ft.; est. 4 B.O.P.D. naturally; shot 300 qt. 1,700-1,800 ft., C.O. with 800 ft. W.I.H.; csg. leaking at 500 ft.

Pecos County

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acd.; rng. tbg.; T.D. 5,479 ft.; est. 4,000,000 cu. ft. gas and 365 B.O. P.D.; made 531 B.O. in 5 hrs.; S.I.
R. G. Pattillo's No. 1 P. E. O'Neal, SW SW Sec. 74, Blk. 10, H.&G.N. Sur., 5,000-ft. test. Drlg. 610 ft.
Plymouth Oil Co.'s No. 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur. Drlg. 3,995 ft.
H. H. Sides' No. 1 Blackstone-Slaughter, Sec. 29, Blk. 129, T.&St.L. Sur., 1,050 ft. W, 250 ft. S lines of section. Drlg. 1,085 ft.

Presidio County

H. D. Wilcox's No. 1 C. E. Conring, 500 ft. from the N and 2,080 ft. from the E lines of Sec. 102, Blk. 4, G.H.&S.A. Sur. Loc.

Reagan County

R. E. Ringo's No. 1 fee, 1,320 ft. from N and W lines of Sec. 22, Blk. K, 3,500-ft. test. Loc.

Reeves County

Roy Johnson's No. 1 H. L. Perkins. Drlg. 870 ft.

Scurry County

Coffield & Guthrie, Inc.'s No. 1 J. W. Moar, Sec. 334, Blk. 97, H.&G.N. Sur., NW Sec.; 4,500-ft. test. Drlg. 3,947 ft.
Ordovician Oil Co.'s No. 1 O. L. Burney, NW NW Sec. 146, Blk. 97, H.&T.C. Sur. Drlg. 1,312 ft.

Stonewall County

Shell Oil Co., Inc.'s No. 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.& T.C. Sur. Ordovician test. Loc.
Shell Oil Co., Inc.'s No. 1 Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Top Mississippian at 6,007 ft., top saturation at 6,015 ft. and drilled to T.D. 6,028 ft. in saturation; flwd. 280 bbl. oil in 24 hrs.; drlg. 6,060 ft., at 6,050 ft., well flowed 68 B.O.P.D.

Sutton County

Domain Oil Co.'s No. 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.&N.G. Sur., Ellenburger L. test. Loc.

Terry County

Ray Albaugh's No. 1 Frances Christian, NW cor. Sec. 49, Blk. T, D.&W. Sur., 5,500-ft. test. Loc.
Denver Prod. & Ref. Co.'s No. 1 Ima Lewis, SE SE Sec. 62, Blk. DD, J. H. Gibson Sur. W.O.R. 165 ft.
J. M. Welborn's No. 1 W. E. Bailey, NW NW Sec. 103, Blk. 4-A, C.M.&R.R. Sur. 5,400-ft. test. W.O.R. 144 ft.

Tom Green County

Dan Short's No. 1 J. G. Davidson, 2,161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; S.D. 3,410 ft.; undecided whether to run csg. or abd.

Upton County

B. C. & D. Dev. Co.'s No. 1 Richard Owens, NE NW Sec. 91, Blk. Y, G.C. &S.F. Sur. Drlg. 560 ft.

Ward County

Atlantic Ref. Co.'s No. 1 Wickett-University, Sec. 12, Blk. 16, University Lds. Sur., 1,980 ft. N and E lines of section. Prep. D.D. 2,733 ft.; S.S.O. 2,570-2,677 ft.; est. 380,000 cu. ft. gas; flwd. 30 to 40 bbl. oil hourly 2,892 to 2,907 ft.; flwd. 445 B.O. and 1,487 B.W. in 24 hrs.; made 458 bbl. oil and 357 bbl. water in 24 hrs.; P.B. to 2,912 ft. to shut off wtr.; last flow 480 bbl. fluid, 52 bbl. were oil; tstg.
Gulf Oil Corp.'s No. 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 7,640 ft.
Kenneth Slack's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. T. Delaware 5,003 ft.; S.D. 5,010 ft.; T. Dela. sd. and hit est. 15,000,000 cu. ft. gas at 5,050 ft. and gas ignited; making 10,000,000 cu. ft. gas daily; made 1 bbl. oil hourly on test; later made est. 2 bbl. hourly; 5,063-88 ft. T.D.; S.I. 5,088 ft.; made 2 bbl. oil per hr. through separator with 12,000,000 cu. ft. gas.

Winkler County

Gulf Oil Corp.'s No. 136 O'Brien, SE SW Sec. 11, Blk. F, G.M.M.B.&A. Sur. Drlg. 2,723 ft.
Gulf Oil Corp.'s No. 1-A Scarborough, Sec. 7, Blk. 22-C, P.S.L. Sur., 1 mile N of Keystone field. S.D.O. 4,276 ft., sulf. wtr.

Yoakum County

Amerada Pet. Corp.'s No. 1 A. M. Brownfield, NE SW Sec. 620, Blk. D, Gibson Sur. 5,500-ft. test. Drlg. 2,300 ft.

E. C. TEXAS WILDCATS

Angelina County

Summerall-Harris' No. 2 G. E. Condra, D. W. Maroney Sur., ½ mi. W of Huntington. S.D. 1,400 ft.

Bowie County

W. E. Neill's No. 1 Lewis Fort, 600 ft. N and E lines of 103-ac. tr., L. Peters Sur. Cg. 2,005 ft.
Shell Oil Co., Inc.'s No. 1 W. D. Hall, 6,900 ft. EL and 4,000 ft. SL of J. Downey Sur.; 6,000-ft. test. M.I.M.

Delta County

Partin & Skinner's No. 1 W. C. Lomax, NW cor. 104-ac. tr. in T. Jones Sur. Drk.

Freestone County

C. F. W. Young's No. 1 Ray Simmons, M. DeCantona Sur., 1½ mi. W of Simmsboro. Drlg. 3,667 ft.

Henderson County

Manning & Pickens' No. 1 T. H. Bell, D. Muckleroy Sur., 6 mi. SW of Mabank. S.D. 3,195 ft.

Houston County

G. L. Dixon's No. 1 B. R. Crowson, J. Chears Sur., 5 mi. NW of Lovelady. S.D. 3,902 ft.; wtr. broke in around csg. seat.

Kaufman County

Bateman & DeArman's No. 1 General American Life Ins. Co., J. Baker Sur., 6 mi. W of Mabank. Loc.
W. H. McGee's No. 1 Rutland Savings Bnk., John Baker Sur., 2¼ mi. NE of Tulosa. S.D. 3,115 ft.
T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E. Kaufman, lower Trinity test. T. anhy. 5,934 ft.; T. Massive 6,123 ft.; B. Massive 6,255 ft.; D.P. stk. 6,454 ft.

Upshur County

H. C. McGahey's No. 1 Ludie Turner, SE cor. 200-ac. tr. in A. Butler Sur. Loc.

EAST TEXAS

(Border Counties)

Cass County

Joe Griffin's No. 1 W. H. Daniel, 715 ft. EL, 360 ft. SL, 101-ac. tr., W. Pittman Sur. Cd. 2,814-33 ft.; rec. 15 ft. gr. sh.&sd.; drlg. 4,080 ft.

Harrison County

Ark. La. Gas Co.'s No. 1-C Abney, Jas. Shandoin Sur. Drlg. 2,370 ft.
Union Prod. Co.'s No. 1 John S. Bryson, T. D. Wilson Sur., 2½ mi. SW of Waskom area. Loc.

Marion County—Other

R. S. Barnwell, Jr.'s No. 1 J. Fitzgerald, 1,100 ft. S, 800 ft. W, NE cor. N. Gumpton Sur. Set 10¾-in. csg. 45 ft.; prep. run csg. 2,410 ft.
Jules Constantine's No. 1 S. Hart, 435 ft. N, 330 ft. E, SW cor. 25-ac. tr., G. Coore Sur. Drlg. 1,763 ft.
Henry & Parson's No. 1 W. C. Ralph, Eli Usury Sur., 3 mi. N of Jefferson. Drk.
J. M. Horne's No. 1 W. F. Singleton, 1,331 ft. EL, 50 ft. NL, J. O. Jackson Sur. Set 5½-in. csg. 2,267 ft.; tstd. dry; W.O.S.R. 2,507 ft.
H. T. Manning's No. 1 T. O. Livingston, G. Coore Sur. R.U.
E. D. Markham's No. 1 Sid Hart, Ganes Coore Sur., 6 mi. SE of Smithland. W.O.C. 2,280 ft.
Roosth & Genecov's No. 1 T. O. Livingston, 300 ft. SW cor. 8-ac. tr., G. Coore Sur. Set 5½-in. csg. 2,281 ft.; S.D.W.O. 2,341 ft.

Shelby County

Earl McDaniels et al's No. 1 J. S. Swann, 470 ft. EL, 1,400 ft. SL, 100-ac. tr., Ann Gray Sur. T.D. 2,378 ft.; 9⅝-in. csg. 585 ft.; S.D.W.O. 2,378 ft.
P. & B. Oil Co.'s No. 2 W. C. Windham, A. K. English Sur. Set 10-in. csg. 170 ft.; T.D. 5,335½ ft.; W.O.S.R. 3,362 ft.
W. C. Parker's No. 1 F. G. Willey, 480 varas NL, 240 varas EL, 84-ac. tr., A. K. English Sur. Set 5½-in. csg. 3,330 ft.; drlg. 1,715 ft.
Superior Oil Co. of Tulsa's No. 2 Pickering Lbr. Co., 1,020 ft. N, 467 ft. E, SW cor. W. J. Crane Sur., in B. H. Simpson Sur. Prep. run csg. 1,853 ft.

NORTH TEXAS WILDCATS

Archer County

W. H. Gant's No. 1 A. Vogtsberger, Sec. 3, G. E. Co. A-146 Sur.; 5,200-ft. test. O.S. 4,659-71 ft.; L.S.O. 5,257-69 (cd.) ft.; cmtd. 6⅝-in. at 4,651 ft.; swbd. 16 B.O. in 16 hrs.; flwd. 62 bbl. in 4 hrs. through csg. after being S.I. for 2 wks.; rng. tbg.; S.I.

Baylor County

R. T. Myers' No. 1 W. H. Portwood, Sec. 19, H.&T.C. Sur., Blk. 45. Drlg. 510 ft.
Rogers' No. 1 Howe, J. Howe Sur., Abst. 572. S.D.O. 700 ft.

Clay County

L. T. Burns' No. 1 Tom Watson, Sec. 2631, T.E.T. Sur.; (3½ mi. SE Shell's Henderson discovery). Set 100 ft. 10-in.; drlg. 4,920 ft.
Deep Rock Oil Co.'s No. 1 S. Dycus, Sec. 2602, T.E.&L. Sur.; 3,600-ft. test. Drlg. 1,320 ft.
J. E. Farrell's No. 1 C. R. Malone, Sec. 12, T.&N.O. Sur., Abst. 828. C.O. to D.D. at 5,270 ft.
Franklin Pet. Corp.'s No. 1 E. B. Staggs, Blk. 55, Archer C.S.L. Sur. C.O. at 5,775 ft.
E. C. Norwood's No. 1 K. N. Hapgood, Sec. 61, M.C.S.L. Sur.; 6,000-ft. test. Drlg. 4,282 ft.

Denton County

Seitz, Comegy & Seitz' No. 1 F. Freeman, M.E.P.&P. Sur., Abst. 1470. Drlg. 378 ft.
Trentman Oil Co.'s No. 1 A. Madwell, J. Withers Sur., Abst. 1343; 4,000-ft. test. Loc.

Jack County

R. A. Conkling's No. 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope; 3,500-ft. test. Spdg.

Montague County

Walter Gant's No. 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset. Drlg. 1,300 ft.
Harvey Drlg. Co. et al's No. 1 D. A. Threadgill, Sec. 10, Jack Co. Sch. Ld. Sur. A-390; 6,000-ft. test. Drlg. 5,935 ft.
W. H. Peckham's No. 1 Dr. Lawson, N. Kimbro Sur., Abst. 405. Drlg. 1,050 ft.
Sinclair Prairie's No. 1 T. H. Milam, Lot 54, A. Beason A-20 Sur.; 6,000 ft. test.

Tstg. S.S.O. 5,666-77 ft.; 6⅝-in. at 5,683 ft.; perf. csg. 5,620-28 ft.; swbd. 1 B.O.; prep. reperf.

Sinclair Prairie Oil Co.'s No. 1 G. Whaley, SW cor. of N½ of T. R. Jackson Sur., Abst. 394; 6,000-ft. test. Drlg. 5,392 ft.

Wichita County

Consolidated Oil Co.'s No. 1 E. M. Barnes K, Sec. 11, Blk. 7, H.&T.C. Sur. 6⅝-in. csg. at 4,336 ft.; saturation from 4,336-70 ft.; D.D. to 4,395 ft.; shot with 200 qt. 4,350-95 ft.; C.O.

Wilbarger County

Amerada Pet. Corp.'s No. 1 B. Goodpasture, Sec. 35, H.&T.C. Sur., Blk. 15. 3,000-ft. test. Sat. lime 4,407-20 ft.; 600 ft. oil and 150 ft. mud on 60-min. D.S.T.; set csg. 6,306 ft.; drld. plug and swbd. 15 B.O.P.H.; D.D. below 6,309 ft.

O. M. Stidham & Son's No. 1 C. D. Watts, Sec. 64, H.&T.C. Sur., Blk. 15.; 6,000-ft. test. Drlg. 2,550 ft.

Young County

A. T. Strong's No. 1 Craig heirs, N. Lynch Sur. Drlg. 3,227 ft.

TEXAS PANHANDLE

Childress County

Texas Co.'s No. 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur., 7,500-ft. contract. Lost circulation at 500 ft.; S.D.R.

Cottle County

Burns et al's No. 1 Moss, Sec. 5, Forsythe Sur. S.D.O. 1,960 ft.

Dickens County

Bond Jones' No. 1 Foard, I.&G.N. Sur. S.D.O. 4,400 ft.

Hall County

Humble Oil & Ref. Co.'s No. 1 A. D. Weaver, SW NW Sec. 51, Blk. 1, S.P. Sur.; 7,500-ft. test. Drlg. 2,260 ft.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 48, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; baiting 6,274 ft.; csg. cmt. at 5,000 ft.; R.U. control head for testing at est. 6,000,000 cu. ft. gas; plug drilled; tstd. wtr.; S.D. 5,021 ft.

Potter County

Canadian River Gas Co.'s No. 1 City of Amarillo, in city limits just north of city. Prep. cmt. to 3,825 ft. and shoot with 140 qt. from 3,784-97 ft.

Sherman County

I.T.I.O. Co.'s No. 1 S. C. Bryant, C NW¼ Sec. 369, Blk. T-1, T.&N.O. Sur. Perf. csg. from 3,975-88 ft.; shot with 60 qt.; prep. acidize.

WEST CENTRAL TEXAS DISTRICT

Brown County

H. T. B. Prod. Co.'s No. 1 C. R. Smith, NW NW S½ Sec. 31, H. P. Brewster Sur. 290; 1,300-ft. test. S.D.R. 405 ft.

A. M. Stalcup's No. 1 J. C. Morris, 900 ft. S, 700 ft. E lines of Morris tr. in John Goodwin and W. B. Hester Surveys. S.D. csg. 972 ft.

Callahan County

N. D. Gallagher's No. 1 E. Grisson, SE pt. Sec. 2, Blk. 8, S.P. Sur. Drlg. 930 ft.

C. D. Hagerty's No. 1 T. Windham, NW SE Sec. 154, Blk. 3, G.H.&A. Sur.; 1,000-ft. test. Loc.

H. W. Lee's No. 1 Mrs. Murray Harris, SW cor. NW SW Sec. 99, B.B.B.&C. Sur.; 1,350-ft. test. Drlg. 1,000 ft.

J. L. Reeves' No. 1 N. A. Estes, SW¼ Sec. 4, Blk. 8, S.P. Sur., 2½ mi. S of Bowles pool. M.I.M.

Coleman County

Anzac Oil Corp.'s No. 1 McCord, 2,200 ft. E, 2,196 ft. S of B.B.B.&C. Sur. S.D.O. 2,069 ft.

J. C. Ort's No. 1 Emet Walker, SE cor. Hicks Sur. W.O.C. 700 ft.

McKissick's No. 1 Morris, 330 ft. N, 1,582 ft. W lines, Blk. 2, G.H.&H. Sur. Prep. test; Gardner sd. topped at 3,530 ft. with sat; flwg. est. 5,000,000 cu. ft. gas and 20 B.O.P.D.; S.D. 3,566 ft.; may C.O. and D.D.

Coryell County

Kistler O. & G. Co.'s No. 1 Barnes, 360 ft. SE line, 3,700 ft. NE line of H. Farley Sur., 3 mi. NE of Gatesville: 2,500-ft. test. S.D.O. 830 ft.

Eastland County

Dobbs Oil Corp.'s No. 1 Mrs. R. L. Poe, 1,320 ft. from S and E lines, of SE¼ Sec. 37, Blk. 3, H.&T.C. Sur. S.D.R. 925 ft.

Dobbs Oil Corp.'s No. 1 Thomasson, S. H. Key Sur., 330 ft. from N, 846 ft. from E line of 80-ac. tr. T. Caddo 2,560 ft.; S.S.O.&G. 2,570 ft.; set 7-in. 2,570 ft.; drlg. 2,633 ft.

Jones & Stasney and Groover & Rose's No. 1 McElreath, C SW Sec. 104, Blk. 3, H.&T.C. Sur.; 3,500-ft. test. Drlg. 876 ft.

Steele & Black's No. 1 B. B. Poe, 150 ft. N and E lines, SE¼ Sec. 6, Blk. 2, H.&T.C. Sur.; 900-ft. test. Drlg. 670 ft.

Erath County

Dillingham's No. 1 Morning, S.S.G. 3,650 ft.; S.D.O. 3,691 ft.

T. G. Jackson's No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. Est. 15 to 20 B.O.P.D. at 3,360-75 ft.; S.D.; may treat 3,395 ft.

E. H. Young's No. 1 J. B. Mills, J. Harry Sur., 5 mi. NW of Dublin; 3,500-ft test. M.I.M.

Hamilton County

A. J. Caldwell's No. 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur. Drlg. 2,790 ft.

Gunther & Smith's No. 1 C. Thompson, 467 ft. SE, 4,533 ft. SW lines, Rhody Kennedy Sur.; 4,500-ft. test. Loc.

Hensley & Watson's No. 1 M. Manning, 467 ft. W, 2,500 ft. S lines of Agaop Gathan Sur.; 4,500-ft. test. Loc.

Wallace & Wallace's No. 2 C. E. Lund, C S½ E 20 ac., N½ SW¼, R. J. Bailey Sur. 51. Csg. 300 ft.; S.D. csg. 3,265 ft.; T. Marble Falls 3,245 ft.; S.D.O. 3,505 ft.

B. Waters' No. 1 A. Oates, 3,350 ft. SE. 8,450 ft. NE lines of F. Hughes Sur.; 4,000-ft. test. S.D.O. 350 ft.

Jones County

Geo. Callihan's No. 1 J. J. Steele, NE cor. SE Sec. 11, Blk. 15, T.&P. Sur. Drlg. 1,655 ft.

J. C. Hunter's No. 1 W. Z. Betties, 2,150 ft. S, 467 ft. E lines, Sec. 1, T.C.R.R. Sur. Drld. sat. 3,458-63 ft.; drld. plug.; flwd. est. 400 B.O.P.D.; tstg.

J. C. Hunter's No. 1 J. Sayles, SE N½ Subd. 8, R. Smith Sur. 192, just NE of Hawley; 3,300-ft. test. Drld. sat. 2,334-45 ft.; tstg.

M. R. Mead's No. 1 E. Hicks, SE cor. Sec. 5, O.A.L. Sur.; 3,500-ft. test. Mch.

Merry Bros. & Perini's No. 1 C. S. Walker, SE cor. Walker tr., G. Martinez Sur. 137. Drlg. 546 ft.

J. D. Sandefer, Jr.'s No. 1 Hudspeth, 160-ac. tr. in Subd. 22, Edw. Miles Sur. 219. Drlg. 1,980 ft.

Palo Pinto County

Fred Guyer's No. 1 Dalton, Dalton Sur., Abst. 153; 1,400-ft. test. Loc.

E. P. Wilson's No. 1 F. M. Watson, NW pt. of Sec. 10, Blk. 2, T.&P. Sur.; 3,250-ft. test. S.D.O. 4,065 ft.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert, T.&P. Sur., Abst. 1958. Tstg. gas; C.O. 100 ft. off bttm.; csg. set 3,905 ft.; S.I. 4,327 ft.; est. 500,000 ft. gas and spray oil; tstg.; prep. D.D.

C. F. Carter's No. 1 E. F. Yeager, 1,000 ft. from N, 300 ft. from E lines of C. H. Atkinson Sur.; 1,000-ft. test. S.D.O. 268 ft.; H.F.W.; drlg. 570 ft.

W. M. Holland and C. Leidecker's No. 1 G. W. Keeling, F. Lidely Sur., Abst. 829, 1½ mi. W of Springtown; 3,500-ft. test; S.D.R. 1,635 ft.

C. Leidecker and Wm. Holland's No. 1 J. A. Boyd, NE NE of S 100 ac. of A. J. Edwards Sur.; 4,500-ft. test. Drlg. 1,825 ft.

Runnels County

Davis' No. 1 Summers, W½ of tr. in Day Ld. & Cattle Co. Sur., W of Beddo field. H.F. S.W.; may P.B.; S.D.O. 3,624 ft.

Homer Price's No. 1 Williams, C S½ Sec. 26, D. Diaz Sur., N outpost to Beddo field. T.D. 2,561 ft.; prep. D.D.

Shackelford County

T. L. Blanton's No. 1 W. F. Tucker, SW Sec. 552, T.E.&L. Sur. Loc.

John E. Carson's No. 1 R. A. Elliott, 660 ft. S and E lines, Sec. 48, B.A.L. Sur.; 3,650-ft. test. S.D. 1,685 ft.

Georgian Oil Corp.'s No. 1 Blach ranch, C NE¼ of T.E.&L. Sur. 390, 10 mi NE of Albany; Ordovician test, T.D. 4,825 ft.; P.B. to Caddo L. for test at 3,860-3,915 ft.; T. Ellenburger 4,730 ft.; P.B. 3,915 ft.; treated with 1,000 gal.; est. 8 to 20 B.O.P.D. at 3,915 ft.; S.D.O. 4,825 ft.; may plug.

August P. Schkade's No. 1 J. L. Godwin, NE Sec. 385, T.E.&L. Sur. Loc.

Swann & Gorsuch's No. 1 Sam Lazarus, SE SE Sec. 80, Blk. 13, T.&P. Sur. S.D.; S.S.O. 1,514-17 ft.; tstg.

L. T. Terry's No. 1 W. A. Green, NW cor. S½ NE Sec. 64, Blk. 12, T.&P. Sur. S.D.O. 1,020 ft.; C.D.

Stephens County

Carey's No. 1 Crudington, SE cor. T.E. &L. Sur. 1268, 5½ mi. S of Stribling field. W.O.C. at 3,361 ft.; S.O. from 3,362-64 ft.; acd. with 2,000 gal. 3,362-71 ft.; T.D. 3,730 ft.; P.B. 3,450 ft.; tstg.

Jones Bros. Drlg. Co.'s No. 1 T.X.L., 660 ft. N and E lines SE Sec. 3, Blk. 3, S.P. Sur.; 4,050-ft. test. T.D. 4,035 ft.; S.S.O.; C.O. after shot 4,018 ft.

Panhandle Ref. Co.'s No. 1 Frank Magers, SE Sec. 1, Blk. 3, S.P. Sur., 1¾ mi. N of Fagg area. Prep. shoot 4,037 ft.

Pitzer & West and Brazos-Young Oil Corp.'s No. 1 H. Compton, SW SW Sec. 9, O.A.L. Sur., 1 mi. SE of Lovine pool; 3,600-ft. test. P.B. 3,535 ft.; acd. with 8,000 gal.; est. 20 B.O.P.D.; swbg.

J. R. Tolbert's No. 1 W. L. Martin, NW cor. NE¼ Blk. 1335, T.E.&L. Sur., 1½ mi. SW of Fagg area. Drlg. 3,450 ft.

Taylor County

Yehudi Oil Co.'s No. 1 J. Bettes, R. Ortiz Sur. 10; 2,500-ft. test. Drlg. 2,265 ft.

Hose's No. 1 Bond, NE NE Sec. 40, Blind Asylum Lds., 2 mi. SW outpost to Bowles field. Fsg. csg. 4,720 ft.; may jnk. and abd.

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New Wildcats Planned In Mississippi Fields

By GEORGE WEBER

JACKSON, Miss., June 17.—A number of new wildcat tests are in the offing in Mississippi, as drilling on blocks assembled from geophysical and other information continues. Attala, Carroll, Hinds, Jones and Kemper counties share in the new wildcat activity, and Jones, Carroll, Madison, Warren, and Wayne counties may soon have new tests, with tentative locations and drilling obligations assumed on blocks in the latter areas.

Pickens

The Pickens field, eastern Yazoo County, is holding attention with six active tests in offset and outpost positions. Late last week, Exchange Oil Co. encountered the pay sand in No. 3 Wilburn, which offsets No. 2 on the west. The same operators' No. 4 Wilburn, south offset to No. 2, is drilling below 3,200 ft. To the northwest and west, other tests are drilling, in wildcat positions. Leon Dunn has set surface casing on No. 2 H. H. Pepper and is rigging up on No. 1 Pepper, Section 26-12n-2e, 3 miles northwest of the field. Exchange Oil Co. is drilling below surface casing in No. 1 Bennett, west of the field and Hill & Hill's No. 1 W. A. Montgomery, about 1½ miles northwest of production, is drilling at about 3,500 ft.

Tinsley

At Tinsley several oil wells were completed, extending production north, northwest and east one location in each case. Tinsley's most interesting outpost test, Whigate Oil Co.'s No. 2 Robertson, S½ of NW SE Section 20-10n-3w, was abandoned at 5,307 ft., after encountering the Woodruff sand of the Salem horizon at 5,143-5,288 ft., carrying salt water. A highly porous sand section was found at 5,148-5,222 ft., with a shale section at 5,222-36 ft. and further porosity at 5,236-88 ft. The test, drilled across a fault from the field, which apparently caused No. 1 Robertson to be dry several weeks ago, ran about 150 ft. low, topping the chalk at 5,088 ft.

Testing of two prospective shows is to get under way shortly in G. C. Grasty's No. 1 Kentucky Lumber Co. in Itawamba County, northeast Mississippi. The test, bottomed at 3,530 ft. stopped drilling, and the 7-in. casing originally run to 2,795 ft. to shut off sulfur water was pulled and recemented at 1,250 ft. The operator will perforate and acidize at 1,150-1,240 ft., and at 560-70 ft., where shows of oil were encountered.

Tallahatchie County's only current test, Gulf Refining Co.'s No. 1 Cason in Section 2-21n-1w, was abandoned last week after encountering igneous material at 5,051 ft., and drilling to 5,909 ft.

Tinsley production, now finding outlet to the Coastal Petroleum Corp. at its Mobile, Ala., refinery, as well as to the Standard Oil Co. of Louisiana refinery at Baton Rouge, averaged 9,315 bbl last week, with accumulative production exceeding 1,211,700 bbl. Pickens production was increased by installation of a pump on the discovery well. Kingwood & Exchange's No. 1 Wilburn. The test went dead June 4 and after operators swabbed and rocked it for several days, it went back on production, making 570 bbl. of oil and 877 bbl. of salt water daily. A pump was installed on June 10.

MISSISSIPPI COMPLETIONS

Wildcat—Tallahatchie County

Gulf Refining Co.'s No. 1 Cason, 150

(Continued on Page 111)

MISSISSIPPI

Carroll County

John Woodley et al's No. 1 Hemphill, NW SE NW Sec. 27-19n-2e. M.I.M.

Clarke County

Ark.-Miss. Oil Co.'s No. 1 Long Bell, C SW NE Sec. 35-3n-17e. Set 10¾-in. csg. 2,194 ft.; T.D. 4,585 ft.; no shows; to run electrical survey.

Hinds County

Harvey Robinson and J. P. Frame's No. 1 Alford, SW SE Sec. 18-6n-1e. Set 10¾-in. csg. 750 ft.; W.O.C.

Holmes County

Exchange Oil Co.'s No. 1 S. D. Gwin, 2,170 ft. S line, 1,470 ft. E line, Sec. 6-16n-1e. Drlg. sh. 4,993 ft.

L. A. Hawkins' No. 1 B. W. Humphrey, 1,980 ft. S, 330 ft. W NE cor. Sec. 33-13n-2e. S.D. 1,250 ft. titles.

A. H. Rowan's No. 1 Eakin, C NW SE Sec. 20-14n-1e. Set surf. csg.; drlg. 5,993 ft.

Jones County

T. N. Smith's No. 1 Hollifield, NW SW NW Sec. 20-8n-12w. Drk.

Kemper County

ft.; acid. with 1,000 gal.; cg. 3,113 ft.

R. M. Crabb et al's No. 1 Land, NW NE Sec. 12-10n-14e. Drk.

Leflore County

Exchange Oil Co.'s No. 1 Wildwood, SE SE NE Sec. 6-20n-1e. Drlg. 4,293 ft.

Monroe County

Willmut Gas & Oil Co.'s No. 1 Rye, 300 ft. N and E C Sec. 22-15n-17e. Set 10¾-in. csg. 625 ft.; drlg. hd. L. 1,444 ft.

Oktibbeha County

Oktibbeha Oil & Gas Co.'s (Nick Shiarella) No. 1 L. L. Murphy, NE NE NW Sec. 28-17n-12e. Set surf. csg.; resumed drlg.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen. Sec. 8-7s-9e. Drlg. 1,913 ft.

Scott County

Exchange Oil Co.'s No. 1 Newell, Mineral Lease Co., Inc., 330 ft. NW cor. NE SW Sec. 30-7n-7e. T.D. 6,435 ft.; stuck D.S. 1,300 ft.; circulating with oil.

E. L. Martin's No. 1 Newell Mineral Lse. Co., 660 ft. W, 330 ft. S, NE cor. Sec. 5-6n-7e. M.I.M.

Yalobusha County

J. E. Green's No. 1 Walter-Goldman, 247 ft. SW cor., SE NW Sec. 23-26n-6e. Drlg. 475 ft.; cd. sds. 260-320 ft. and 400-68 ft.; drlg. sh. 1,306 ft.

Yazoo County

Leon Dunn's No. 1 H. H. Pepper, 1,024.5 ft. E, 330 ft. S NW cor. Sec. 26-12n-2e. R.U.

Leon Dunn's No. 2 H. H. Pepper, 1224 ft. E, 990 ft. S NW cor. Sec. 26-12n-2e. Set 9⅝-in. csg. 611 ft.; W.O.C.

Exchange Oil Co.'s No. 1 T. A. Bennett, SW SW SE Sec. 28-12n-2e. Set 10¾-in. csg. 513 ft.; drlg. 550 ft.

Exchange Oil Co.'s No. 3 Wilburn, SW NE NE Sec. 31-12n-3e. Cd. 4,855-63 ft.; sdy. sh. cd. 4,863-69 ft.; rec. 2 ft. sat. oil sd.; drlg. 4,869 ft.

Exchange Oil Co.'s No. 4 Wilburn, C NE SE NE Sec. 31-12n-3e. Drlg. bl. sh. 3,439 ft.

Hassle Hunt's No. 2 Lammons, C SW NE Sec. 1-10-3. R.U.

Hill & Hill's No. 1 W. A. Montgomery, C SE SW SE Sec. 24-12n-2e. Set 10¾-in. csg. 920 ft.; T.D. 4,420 ft.; fsg.

Sells Pet. Co.'s No. 1 Falkner, C SE NE Sec. 34-9n-4w. Set csg. 1,640 ft.; drlg. 6,386 ft.

Slick-Urschel Oil Co.'s No. 7 Slick, 420 ft. N, 660 ft. E SW cor. Sec. 36-11-3. Top chalk 4,667 ft.; drlg. 4,763 ft.

C. L. Thompson, Rowan & Hope's No. 1 Joe Elliott-Mrs. Mary Edwards, 900 ft. S. 2,310 ft. W of NE cor. Sec. 30-10n-3w. Drlg. 4,926 ft.

Union Prod. Co.'s No. 2 Cesana, 774.8 ft. N, 619.1 ft. E SW cor. Sec. 18-10-2; set 16-in. csg. 32 ft.; 10¾-in. csg. 613 ft.; T.D. 758 ft.; W.O.C.

Union Prod. Co.'s No. 11 Stevens, 1,040 ft. SW cor. Sec. 12-10-3. Set 10¾-in. csg. 606 ft.; T.D. 4,950 ft.; D.S.T. 4,820-50 ft.; rec. 2,146 ft. oil, no wtr., in 16 min. with ⅝-in. chokes top and bottom; swbg. in.

Union Prod. Co.'s No. 4 J. M. Twiner, C NE NW Sec. 1-10-3. Set 10¾-in. csg. 593 ft.; W.O.C.

ALABAMA

Choctaw County

Union Prod. Co.'s (formerly Joe Modisett et al) No. 1 McCorvey, SE cor. SW SW Sec. 20-9n-2w. O.W.D.D.; O.T.D. 7,520 ft.; reamed to bttm.; recmtd.; T. surf. csg.; T.D. 9,626 ft.; set 7-in. csg. 4,038 ft.; went in to drl. ahead and sdtrkd. below 4,038 ft.; P.B. 4,020 ft. and sdtrkd. again and drld. to 5,138 ft.; S.D.W.O.

Marion County

Seaboard Oil Co.'s No. 1 Clark et al., 360 ft. W, 660 ft. N, SE cor. SE SW Sec. 28-11s-14w. Shot 638-45 ft. with 130 qt. nitroglycerin; crooked hole; skdd. over; drlg. L. 417 ft.

Mobile County

W. L. McClanahan's No. 1 J. A. Stafford, 300 ft. N, 150 ft. W SE cor. NW SW Sec. 24-7s-3w. Set 10-in. csg. 750 ft.; reported S.G. 3,475-90 ft. and S.O. 4,550-72 ft.; ran electrical log 5,590 ft.; T.D. 6,541 ft.; ran electrical survey; W.O.

Plains Prod. Co.'s No. 1 Daly-Hardman, NW cor. SE SE Sec. 2-6s-4w. R.U.

Patterson-Ballagh WIRE LINE GUIDE used in drilling 84,000 ft. —cost only $36 for Refills

At Shreveport a well-known drilling company using Patterson-Ballagh Wire Line Guides required only one set of refills to drill 14 wells, each from 5,000 to 7,000 feet, averaging 6,000 feet. With a total of 84,000 feet of wells drilled, the cost of refills was only $36.

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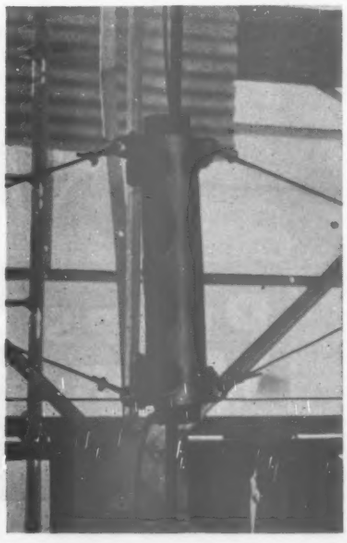

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CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the June 6 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.25

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.065	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65		$0.8[illegible]
19-19.9	.69		.88
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective February 1, 1940.

Crude-Oil Prices

Led by South Penn Oil Co., posted prices for crude oil in the various Pennsylvania Grade fields were reduced 25 cents per barrel effective June 18, making the new prices as follows: Allegany and Bradford, $2.25; oil in Southwest Penn lines, $1.90; in Eureka Pipe Line lines, $1.84; in Buckeye Pipe Line lines (purchased by Quaker State Oil Refining Corp.), $1.80. Pennzoil Co.'s new prices in the Venango-Warren district, will range from $2.18 to $2.13, depending on length of pipe-line haul. Tide Water Associated Oil Co. and Bradford Transit Co. are the purchasers in the Allegany and Bradford districts. Pure Oil Co. in West Virginia meets the South Penn price of $1.84 for oil in that state.

Effective June 10 Pure Oil Co. posted a flat price of $1 per barrel for crude in the Creole, Cameron Parish, Louisiana, field. This is a 4-cent increase.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended June 15 High	Week ended June 15 Low	Week ended June 15 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
58½	38½	44	40¾	44	Amerada Corp.	788,675	N.P.	50cQ	4-30-40	$2.00	$1.56	$2.07	74½	50	78	55
27⅛	18¼	21⅝	19¾	20¾	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.66	1.40	24¾	18⅛	27⅝	17¾
16⅝	8½	10⅜	9⅛	9⅝	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	1.39	—.85	21	10¼	23¾	12⅛
13⅜	7⅛	8¾	7⅛	8⅜	Barnsdall Oil Co.	2,558,779	$5	15c	6-8-40	.90	.76	1.26	19½	11⅛	21⅜	10⅛
8⅛	5½	6⅝	5⅞	6⅝	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	8-15-40	.80	.55	.55	9⅞	6½	10⅜	7
25	16⅛	18⅝	16⅛	17⅞	Continental Oil of Delaware	4,682,572	$5	25cQ	3-25-40	1.00	1.35	1.10	31½	19⅞	35¾	21¼
6⅞	3⅝	4½	3⅝	4	Houston Oil	1,098,618	$25	....	10-17-30	....	.43	.83	9⅜	4½	9¾	5
14⅜	9	10½	9½	10	Lion Oil Refining	435,815	N.P.	25cQ	4-20-40	1.00	1.50	2.09	18⅛	10	25⅛	15⅝
17⅝	11½	14⅛	12½	14	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	1.42	.56	18	11⅛	22⅝	12¼
11	7⅛	8	7½	8	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	.87	1.04	14⅞	8¾	17⅜	10⅝
9¾	4⅝	6⅞	5	6⅞	National Supply	1,155,517	$10	....	12-22-37	....	—.87	—.79	15½	5⅝	23	12½
8¾	5¾	6⅝	5⅜	6	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	—.10	.25	10½	6	14⅞	8⅜
8¼	5¾	6	5⅜	6	Pacific Western Oil	1,900,000	N.P.	40c	12-19-39	.40	.81	1.22	11⅞	7	15⅞	10¼
9	6⅜	10½	9	10	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	1.10	.08	8¾	5	9¼	6¼
41⅜	27⅛	34¼	27⅝	33⅛	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-40	2.00	2.21	2.03	46½	31¼	44⅜	27¼
22¾	15	16½	15½	16¼	Plymouth Oil Co.	1,038,633	$5	35cQ	3-30-40	$1.40	2.38	2.59	24	17⅛	25⅜	15
11½	7	8⅜	7	7¾	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	1.11	.38	11¾	6⅛	13½	8¼
8⅜	5⅞	7½	6½	7⅛	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.65	.51	10¼	6⅝	9⅞	5
20	11	14⅛	12¼	14⅛	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-40	1.00	1.40	1.52	24⅜	15½	27½	15½
11⅛	7⅝	9	7⅝	9	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.50	.77	.72	17¼	9⅞	18⅜	10
23¼	12¼	14⅜	12¾	14⅜	Skelly Oil	995,349	$15	25c	1-30-40	.75	1.99	2.27	29½	15½	34¾	18½
12½	7⅛	9	7½	8½	Socony-Vacuum	31,206,071	$15	25cSA	3-15-40	.50	1.10	1.29	15⅛	10¼	16⅜	10⅜
26⅛	17⅜	20	17½	18½	Standard Oil of California	13,003,953	N.P.	25cQ	3-15-40	1.10	1.38	2.22	33⅝	24¼	34⅞	25⅛
29	20¾	23½	21⅛	23¼	Standard Oil (Indiana)	15,272,020	$25	25c	6-15-40	1.25	2.23	1.82	30	22¾	35½	24¾
46½	29⅞	37⅝	32¾	35¾	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	3.26	2.86	53½	38	58¾	39¾
65⅞	47	51	48	49¾	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	2.74	1.07	66	45¾	65⅛	45
2½	1¼	1⅝	1¼	1½	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.04	.24	3⅝	1⅜	4¼	1⅜
47⅝	33	39	33½	38¾	Texas Corp.	10,876,139	$25	50cQ	4-1-40	2.00	3.02	2.13	50⅜	32½	49⅝	32⅝
4¼	2½	3⅛	2⅝	3⅛	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.69	.86	5⅜	3¼	5⅞	2⅝
8⅝	5½	6¼	5⅞	6¼	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-40	.40	1.00	1.16	11⅜	7	12½	7
12	8¾	9¾	9	9¾	Tide Water Associated	6,371,827	$10	25c	6-1-40	.80	1.05	1.28	14¼	9½	15¾	10⅛
17½	12	12⅞	12	12⅞	Union Oil Co. of California	4,666,270	$25	25c	5-10-40	1.05	1.25	1.47	19⅜	15⅛	22½	17⅛
29⅞	22¾	24⅜	24⅜	24¾	Union Tank Car Co.	1,177,381	N.P.	45c	6-1-40	1.30	2.07	1.16	24¼	20⅛	23½	20
3⅝	1⅞	2⅛	2	2⅛	Wilcox Oil & Gas	470,768	$5	10c	2-15-40	...	.77	.52	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1⅛ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended June 15 High	Week ended June 15 Low	Week ended June 15 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
10¾	5	6⅛	5⅛	5½	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	$0.14	—.22	11¾	5½	11¾	5
3¼	1⅜	2⅛	1½	1⅞	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.95	—.14	7¼	2½	10¼	4⅞
43	28	33	33	33	Buckeye Pipe Line Co.	200,000	$50	$1	6-15-40	$2.50	3.13	2.36	34¾	26½	39	22½
117	95	99½	99½	99½	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-24-40	6.00	7.87	5.32	130	108⅝	128	97
6¾	4	5	4⅜	4¾	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.68	.23	9¼	4¼	11	5⅛
2⅛	1⅛	1½	1¼	1½	Cosden Petroleum	465,332	$1	....	.....	....	....	....	2¼	½	2⅜	⅞
24¼	14¼	17¾	15	15⅜	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.38	1.64	28	16¾	27½	17½
4⅜	2⅞	3	2⅞	3	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	.03	.69	7½	3⅝	10¼	5½
2	1¼	1⅜	1⅜	1⅜	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.37	—.91	2⅝	1½	3½	1½
31	23½	..	..	..	Eureka Pipe Line	50,000	$50	75c	5-1-40	2.00	.63	—.37	23	15½	31	16
39⅞	25⅛	30	25⅛	29½	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-40	2.00	1.69	1.43	45⅛	29¼	46⅞	33
68	47⅛	54	49½	53½	Humble Oil & Refining	8,987,840	N.P.	62½c	7-1-40	2.00	3.33	3.98	71	52½	72⅝	56
12⅜	5⅝	7	6¼	6⅝	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.71	.96	17	11⅜	19½	14⅛
7¾	5¾	6½	6½	6½	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.33	.47	7¼	5½	9⅜	6
19¾	9¼	10⅜	9⅜	9⅝	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.19	1.98	27½	17	31¼	21
2¾	2	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	....	.06	.14	3¾	2⅛	5	2⅛
10¾	7⅝	9	8	9	Lone Star Gas	5,518,347	N.P.	20c	4-22-40	.70	.98	.88	10½	7⅛	10⅜	6⅝
6¼	3¾	4⅞	3⅞	4⅞	Louisiana Land & Exp.	2,966,762	$1	10c	6-15-40	.35	.22	.45	7¾	4	9⅜	6½
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	1.52	2.28	17	14½	24	16
8½	6½	6⅞	6½	6⅝	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.99	.93	8¾	6⅝	9¾	6⅝
6¼	4⅞	5⅛	4⅞	5⅛	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.70	.62	6	4⅞	5¾	4½
13⅛	10	10¾	10	10½	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-40	1.00	.95	.84	14	11¼	14⅝	11½
12½	8¾	9½	9	9½	National Transit	509,000	$12.50	50c	6-15-40	.85	.91	.88	9½	7¼	9¼	6½
1¼	1	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1¾	1	2⅝	1½
7¾	5¾	..	..	..	New York Transit	100,000	$5	25c	4-15-40	.40	.88	.16	6	4	4½	3½
9⅞	6	7⅛	7	7	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.31	.24	7	4½	6	4
5½	2½	3½	2½	3⅛	Pantepec Oil	2,856,872	$1	....	.....	....	....	....	7⅝	4	7¾	3½
3¼	1½	1⅞	1½	1⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.70	.17	5	1¼	4½	1⅝
2½	1½	1⅝	1½	1½	Ryan Consolidated	298,931	N.P.	....	.....	....	.16	.29	3	1⅛	4	2⅛
11¾	4⅞	..	..	..	Southern Pipe Line	100,000	$10	15c	3-1-40	.30	.25	—.27	4⅞	3½	5⅜	3¼
44	28	33½	33½	33½	South Penn Oil	1,000,000	$25	37½c	6-28-40	3.00	2.84	1.44	40½	26¾	39	28¾
35	22	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50c	7-1-40	2.00	2.06	—.41	23	18	22¼	16½
20⅞	16½	17¼	17	17¼	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-40	1.30	1.53	1.45	20⅛	17¼	18¾	15
41¾	26¼	32	27¾	32	Standard Oil of Ohio	753,740	$25	25c	6-15-40	1.50	6.64	1.81	32¾	17	22¾	16¼
2	1⅜	1⅝	1⅜	1⅝	Sunray Oil	1,975,876	$1	5c	5-1-40	.10	.25	.23	2¾	1⅜	3¼	2
2¾	2	2¼	2⅛	2¼	Texon Oil & Land	936,024	$2	10c	3-29-40	.10	.49	.56	4	2⅝	5¼	3½
3⅜	2	2⅛	2⅛	2⅛	Transwestern Oil Co.	750,000	$10	....	.....	....	—1.42	—.12	6	2½	7⅝	4¼
2⅛	‖	1⅛	‖	1	United Gas Corp.	7,818,959	$1	....	.....	....	—.55	—.51	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

Personal Paragraphs

CLARENCE GRAVETT, drilling superintendent of the southern division for General Petroleum Corp., can now qualify as a guide and lecturer as he did a good job explaining the equipment on drilling and producing wells in the Wilmington field to students of the Sierra Madre school last week. He is now Professor Gravett to the drillers.

F. C. EMBSHOFF, general auditor for Shell Oil Co., Inc., St. Louis, Mo., has been appointed administrative assistant to the president of Shell Pipe Line Corp. in St. Louis. During his long service with Shell he has been assigned to the company's offices in Los Angeles and San Francisco, Calif., and more recently was office manager at Tulsa and Houston, Tex.

W. H. STREET, independent producer, formerly of Midland, Tex., has moved his offices to San Antonio, Tex.

JOHN P. CUNNINGHAM who has been with the Shell Development Co. at Emeryville, Calif., for several years has been advanced to technical assistant at the cracking division of Shell Oil Co., Inc., at Martinez, Calif., refinery.

ROSS CHENAULT, tool pusher for Trinidad Leaseholds, Inc., sailed from New York last Friday on the S. S. Uruguay, terminating a leave of absence spent in the United States. Mrs. Chenault accompanied her husband.

H. M. NAYLOR, independent operator of Houston, Tex., is spending several days in coastal Louisiana where he is watching the completion of his wildcat test in Jefferson Davis Parish which looms as the discovery well of a new pool.

HOWARD E. FELT, secretary of the Warren Petroleum Corp., accompanied by Mrs. Felt and their three children, motored to Franklin, Pa., last week to join in celebration of the golden-wedding anniversary of Mr. Felt's parents. They will be back in their home in Tulsa next week.

E. V. FORAN, W. F. KNODE, BYRON S. BOATRIGHT, and P. C. DIXON, Houston, Tex., have formed a partnership under the name Foran, Knode, Boatright & Dixon for the practice of petroleum and natural-gas engineering. The new organization takes the place of the firm Parker, Foran, Knode & Boatright, which has been dissolved.

I. W. ALCORN, engineer for Pure Oil Co. at Houston, Tex., delivered a paper on "Marine Drilling" at the meeting of the Gulf Coast chapter of the American Institute of Mining and Metallurgical Engineers last week.

F. S. WADE, president of Southern California Gas Co. has announced that effective July 1, 1940, L. D. ROMIG, at present treasurer, will become assistant comptroller in charge of tax and pension matters and that G. A. DETRICK, now general auditor, will leave that position and become treasurer. S. W. BINKLEY, assistant rate and appraisal engineer, will become assistant to the comptroller and A. B. CATES, now special accountant, will become general auditor.

MISS EDITH AGNES MILLER, who has been in charge of the California office of the A.P.I. for several years, will be married to DR. T. BURTON EDMISTON at the Chapman Park Pueblo Oratorio on June 27. She will resume her duties upon return from a 2 weeks' honeymoon.

R. E. BRIGHAM, Wichita, Kans., of the Cities Service Oil Co. land department, has been transferred to Mount Pleasant, Mich.; PAUL SCHAEFER, from Mount Pleasant to Odessa, Tex.; JOHN MADDOX, from Odessa to Amarillo, Tex., and Z. T. HODEHN, Amarillo to Wichita.

W. W. BRUCE, executive vice president; HARRY J. KENNEDY, vice president in charge of marketing, and J. G. DYER, vice president in charge of production, all of Continental Oil Co., at Ponca City, Okla., headed a tour of inspection of the company's properties in the Gulf Coast district the past week.

HENRY ZWEIFEL, president of Cosden Petroleum Corp., has resigned. He explained that he took the presidency in an emergency, with the understanding that when the company was making progress he would give up the post. He continues as general counsel and will return to private law practice. He has been succeeded by R. L. TOLLETT, who joined Cosden in July 1939 as secretary-treasurer. Mr. Tollett is succeeded by A. V. KARCHER of Dallas.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

The combined daily production of Texas, Louisiana, Oklahoma and Kansas, comprising the Gulf Coast and Mid-Continent fields, is 465,000 bbl., of which total, Cushing is producing 250,000 bbl., and is slipping each week.

A $1,950,000 purchase of Devonian Oil Co. oil properties on Oklahoma Indian lands by Roxana Petroleum Corp. (Royal Dutch-Shell) is held up by the Secretary of the Interior until he has the sworn affidavits of Royal Dutch-Shell stockholders that Roxana is not a Standard Oil subsidiary. There are over 29,000 stockholders and they live in all parts of the world!

20 YEARS AGO

The stock of the Phillips Petroleum Co. is listed for the first time on the New York Stock Exchange. Its financial statement says the company netted $1,727,654 in the calendar year 1919.

T. H. Steele, 74, for many years manager of the Kewanee Oil & Gas Co., dies in Tulsa.

10 YEARS AGO

Tom Slick Oil Co. and others' No. 1 Dennis, in the Oklahoma City field, came in with a gas production of 250,000,000 cu. ft. per day. The Bruner field in Texas has a 20,000-bbl. well. Shell, in Section 32-18-38, has the largest producer yet drilled in New Mexico. It is estimated up to 12,000 bbl. per day.

The first commercial hydrogenation plant in the oil industry is nearing completion at Bayway, N. J. It was built by Standard Oil Co. of New Jersey.

W. L. Stewart, 62, president of the Union Oil Co. of California, dies in Los Angeles.

H. R. CULLEN, president of the Quintana Petroleum Co., Houston, Tex., has returned from a short visit to Boston, Mass.

J. M. DUNCAN, of Standard Oil Co., for 27 years district credit man in the Los Angeles, Calif., district, has laid away his records and retired from active service.

C. L. CROSS, technical engineer of the Sinclair Refining Co., has been transferred from the Sand Springs, Okla., plant to the Houston, Tex., plant.

J. E. BRANTLY, president of Drilling & Exploration Co., Inc., has returned from an extended business trip to South America. His company is drilling several wells for the Brazilian Government.

HAROLD M. BALCH, of the Sinclair Prairie Oil Co.'s executive department, Tulsa, was elected president of the Isaac Walton League of Oklahoma, and R. L. RUSH, of the accounting department, was made treasurer.

GEN. WALTER B. PYRON, Houston, Tex., vice president of Gulf Oil Corp., has been appointed to head a subcommittee forming a liaison between the Texas aeronautical advisory committee and the state's national-defense committee.

R. W. BOND, production manager for Shell Oil Co., Inc., who was in South America on a business and pleasure trip, arrived in New York last week. He planned to remain in that city several days before returning to his office in Tulsa.

J. C. BERGERE, of Old Spanish Grants, Inc., Los Angeles, Calif., was in Santa Fe and Albuquerque, N. M., on business recently.

M. J. RATHBONE, president of the Standard Oil Co. of Louisiana, has been elected head of the directing board of the Baton Rouge (La.) Chamber of Commerce.

W. O. BEALL, of the legal department of the Sinclair Prairie Oil Co., Tulsa, left this week in his car on what he declared was a "destinationless vacation." He would just visit points of interest as they appealed to him from day to day, he said.

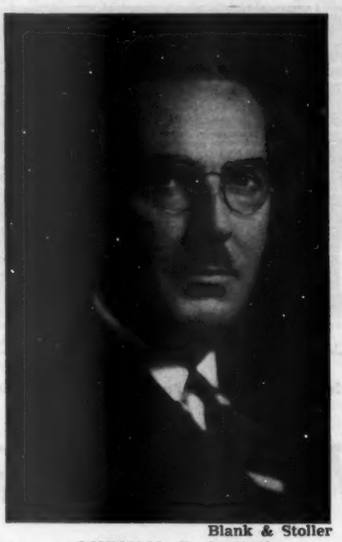
FRANK O. PRIOR, president of the Stanolind Oil & Gas Co. and president of the Tulsa Southern Hills Country Club, has been busy making preparations for the Trans-Mississippi amateur golf tourney which will be held this week on the Southern Hills course.

LEE R. FORKER, of the Quaker State Oil Refining Corp., Oil City, Pa., was elected president of the Purchasing Agents Association of Northwestern Pennsylvania at a meeting at the Wanango Country Club last week. NED G. JOHNSON, of the Sherwood Refining Co., Warren, Pa., was named secretary-treasurer.

JEROME McLESTER, independent oil operator of Graham, Tex., was awaiting a reply this week from the British Government to his proposal to give 50,000 bbl. of oil, provided Britain would pay the transportation costs. The oil would come from McLester's Young County wells provided the Texas Railroad Commission would give its permission for that quantity to be run in excess of allowable. Transportation charge from Young County to the Gulf Coast is approximately 30 cents a barrel. The oil sells for $1 a barrel.

He Had What It Takes

Chester F. Smith, new president of the Standard Oil Co. of New Jersey (incorporated in Delaware), may not have devoted much time to thinking about it when he joined the organization 27 years ago, but the fact is the chance to work his way up through the ranks of a big corporation presented just the kind of challenge he needed to bring out latent qualities of initiative and leadership, if he had them. And he did. Mr. Smith was made head of the principal domestic operating subsidiary of Standard Oil Co. (New Jersey) early this month when F. W. Abrams' election to the board of the parent corporation, left vacant the presidency of the "Delaware company," as it is known in the industry.



Blank & Stoller

CHESTER F. SMITH

Since 1933 Mr. Smith has been vice president of the Delaware organization and general manager of its refining operations, a post that gave him an excellent opportunity to prepare for advancement to the higher position to which he was called upon promotion of Mr. Abrams to the "big board."

The new chief of Jersey's main operating subsidiary has been in its service since 1913. The company has marketing properties from New Jersey to South Carolina, runs the domestic tanker fleet, and operates refineries in New Jersey, Baltimore, and Charleston. Upon graduating from the University of Pennsylvania Mr. Smith went directly to a job in the engineering department of the Bayonne refinery. Promotions came, and in 1928 he was made manager of the plant.

JOSEPH D. McCLAREN, of the oil and gas staff of the Osage Indian Agency at Pawhuska, Okla., with Mrs. McClaren, is on a vacation in the East. They will be gone 3 weeks.

DR. R. R. SAYERS, acting director of the U. S. Bureau of Mines since April 5, was sworn in as its director last week by HAROLD L. ICKES, secretary of the interior.

JACK RAGLAND, formerly secretary to DON KNOWLTON, in the production department of the Phillips Petroleum Co., has been transferred to the sales-promotion department of that company.

FRANK McCLINTOCK, Zephyr Drilling Co., defeated WALTER EMERY, state amateur champion for 1939, in the Oklahoma state amateur golf tourney, but was eliminated before reaching the finals.

O. E. DEMPSEY, formerly of Kelly-Dempsey Co., has joined Superior Construction Co. in partnership with LOY WILSON; the firm hereafter will operate under the name of Dempsey-Wilson Construction Co., with main office in Tulsa. This brings together two outstanding personalities in the pipe-line construction field; they will continue to devote their time and efforts to the building and reconditioning of pipe lines.

L. L. DAVIS, process supervisor of Continental Oil Co., Ponca City, Okla., will appear with other scientists on the program of the summer conference of the American Association for the Advancement of Science at Gibson Island, near Baltimore, Md. Mr. Davis will lead a group discussion of "Oxidation of Lubricants" on June 20. The entire first week of the conference, which begins June 17 and ends August 4, will be devoted to "Frontiers in Petroleum."

WILLIAM DIXON was entertainment chairman of a picnic held last Saturday at Sylvan Beach, Tex., under the management of Houston, Tex., employes of the Humble Oil & Refining Co. with Humble employes, their families and friends from throughout the state as guests. A barbecue was the main feature, with music, dancing, and athletic contests on the program.

HARRY HASSHEIDER, of the U. S. Geological Survey in Montana, and T. F. HARRIMAN, of the Montana Railway Commission, both petroleum engineers, extended their activities to include wildlife conservation recently. At the Pondera field they found that waste oil on ponds was killing wild ducks and their young. The two officials notified oil producers to avoid pollution of the ponds.

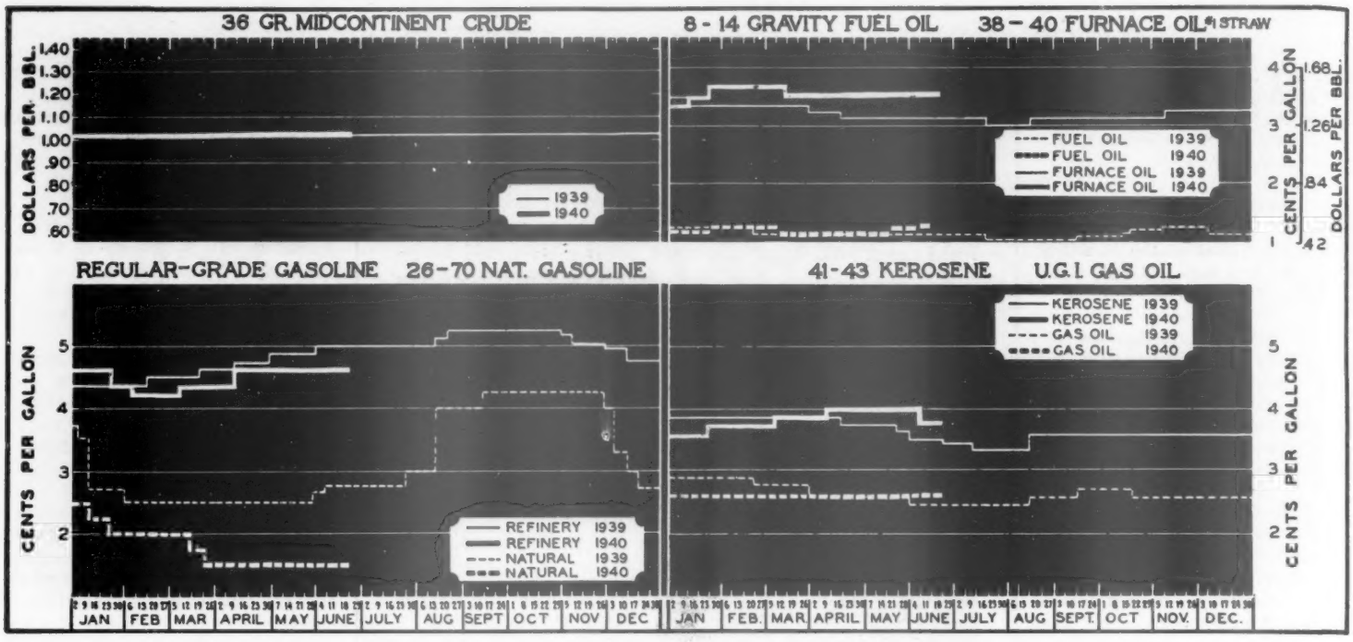
BAIRD H. MARKHAM, director of the American Petroleum Industries Committee, says governmental use of automobiles, trucks, and buses has increased 10 times as fast in the past decade as have motor-vehicle registrations generally. Official figures indicate there were 394,783 publicly owned motor vehicles in operation last year, of which 121,270 were owned by the federal Government and the rest by states, counties, and municipalities. "Some idea of the extent to which motor vehicles have become important instruments in the functioning of our federal, state, and local governments may be derived from the fact that nearly ½ billion gallons of motor fuel were consumed by vehicles in the performance of public duties," Mr. Markham said.

TOM S. COX, formerly consulting geologist in Southwest Texas and one-time West Texas district geologist for Plymouth Oil Co., has moved to Fort Worth, Tex., where he will engage in magnetometer surveys.

Shifts: WILLIAM E. KENNETT, geologist, Superior Oil Co., from Girard, Calif., to Van Nuys, Calif.; ARTHUR HARVEY, Tex-Harvey Oil Co., from Los Angeles, Calif., to Dallas, Tex.; ROSS M. LOCKHART, Lockhart Oil Co., from Alice, Tex., to Pasadena, Calif.; HENRY H. SHARKEY, engineer, Texas Co., from Lawrenceville, Ill., to Woodsfield, Ohio; R. L. WALES, engineer, Texas Co., from Lawrenceville, Ohio, to Woodsfield, Ohio; MELVIN D. MAUCK, geologist, Pure Oil Co., from Henderson, Ky., to Decatur, Ill.; PHIL K. COCHRAN, geologist, Carter Oil Co., from Wichita, Kans., to Shreveport, La.

SAM C. McKINNEY, Shell Oil Co., Inc., scout in the eastern Texas district and stationed at Tyler, has been elected the new president of the East Texas Oil Scouts Association. He succeeds C. J. BRADLEY, scout for Texas Co. in the district who was recently named National Oil Scouts and Landmen's Association president. C. A. POUNDS, Magnolia Petroleum Co. scout, is the new vice president of the East Texas association, and JOHN WILEY, Shell Oil Co., Inc., scout stationed at Longview, is the secretary.

T. E. SWIGART, vice president of the Shell Oil Co., Inc., in charge of the Texas Gulf Coast area, with office in Houston, is to succeed R. P. BASCOM as president of the Shell Pipe Line Corp. The main offices of both these Shell units will be in Houston. A. J. GALLOWAY, vice president in charge of all production activities east of the Rocky Mountains, will have his headquarters in that city instead of in St. Louis, as at present. The transfer of Shell's head offices to New York is to take place in the fall, after which the direction of all exploration and production work will center in Houston. Mr. Bascom is retiring after 22 years, during which he has built and managed the company's pipe-line system in the Mid-Continent and Gulf areas.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Market Unsettled, but Heavy Fuel Affords Exception to Trend

By T. F. SMILEY

UNSETTLED conditions prevailed in most divisions of the Group 3 refined-oil market this week. Uneasiness was especially manifest in the motor-fuel group, where failure of tank-car prices to respond to rising seasonal demand created concern. The vigor of the heavy fuels afforded an exception to the general trend.

Several facts provided basis for the belief that lively buying of gasoline would be witnessed before the expiration of the current month. There should be the usual stocking up for the Independence Day holiday. The tourist business will be moving into high gear. And there will be incentive for jobbers to fill their storage tanks before the higher federal tax goes into effect.

Not Hopeful About Prices

There was pretty general agreement among refiners, however, that all these buying tonics combined were unlikely to lift prices above their present discouraging levels. Furthermore, if swelling gallonage fails to advance tank-car prices by July 1, few refiners expect to see any increase at all this year. It is recognized, of course, that some market stimulant not now discernible, such as an unforeseen development in the European war, may change the whole outlook.

Mid-Continent gasoline stocks in the week ended June 8 reversed their direction of the preceding week and declined 222,000 bbl. Inventories generally were reported to be in a healthy condition. One North Texas refiner who had been quoting concession prices informed his customers that he was sold up and could accept no more orders.

A shortage of tank cars was predicted by one refiner, who said so many buyers were putting off their orders till the last of the month that transportation facilities would be taxed by last-minute shipping instructions.

Heavy industrial fuel, increasingly firm for several weeks, was exhibiting new evidences of strength. Railroad contracts always account for most of the business in this division, but in recent weeks the rising tide of industrial activity has provided new or enlarged outlets. Expanding operation of steel mills and other manufacturing plants is making important drafts on stocks. Some refiners reported they were sold out. Indicative of the better position of this division of the market was the fact that Illinois material, recently selling at 50 cents a barrel, was being quoted at 60 cents.

Nothing developed in the natural-gasoline trade to lift the gloom in which that division of the market has been shrouded for weeks. On the contrary, Italy's entrance into the European war and the collapse of France have made a discouraging prospect look still worse for the present at least. French and Italian orders for substantial quantities of natural gasoline, to have been blended with crude for trans-Atlantic shipment, were canceled. There has been no improvement in the congestion at the Gulf Coast. Intrastate buying in Oklahoma, which till recently was active, slowed up. Intrastate business in Kansas, by contrast, was reported to be definitely tight.

Better Prospect for Lubricants

Lubricating oils, which 2 weeks ago lost a cent a gallon throughout the list, showed no change. Movement was reported fairly steady. As motoring advances to the peak of its season the demand for lubricating oils is certain to rise, supplemented by harvest-field requirements, which are growing daily. The accelerated rate of industrial operations is contributing to the healthier condition of the lubricant market. The feeling among refiners was that prices in the Mid-Continent probably had reached their lows.

The heating oils were dull, with actual weakness developing in water-white and prime-white distillate and in range oil, quotations on all of which sagged. There continued to be a fair demand for No. 2 straw. There were no insistent offerings among the furnace oils and there were few inquiries. The tractor fuels were slow, with prices unchanged. Kerosene continued weak.

Refined Oil Market Barometer

Increasingly active call for heavy industrial fuel relieved dullness that characterized most of the market. Gasoline gallonage was rising seasonally, but prices failed to reflect the growing demand. Heating oils were lifeless, with definite weakness in the higher-gravity distillates and kerosene. Lubricating oils were pointing downward in the East and soft in the Mid-Continent. Natural gasoline was extremely weak.

MID-CONTINENT. Gasoline unsettled. Heating oils easy. Heavy fuels firmer. Naturals weak.

EAST COAST. Gasoline softer. Light fuels easy. Kerosene movement holding fairly well.

GULF COAST. Gasoline inactive. Fuel oils, gas oils, and diesel oils slow.

PENNSYLVANIA. Gasoline moving well, Kerosene and neutrals steady. Bright stock weak.

CALIFORNIA. Gasoline steadier, but in low price range. Diesel oils weaker.

CHICAGO. Gasoline demand brisk, but prices unresponsive. Heavy fuels firm.

Most Refinery-Product Prices Unchanged on East Coast

By H. STANLEY NORMAN

NEW YORK, June 18.—Weakness of the Gulf Coast gasoline market was reflected to a minor extent along the northeastern Atlantic seacoast last week. Prices on most refinery products remained unchanged in this section. Demand for fuel oil continues to fall, but tank-car quotations are relatively stable. Quoted prices for light fuels can be shaded in a few directions, but trading is largely confined to contract relationships. Pennsylvania cylinder oils dropped a cent per gallon, but neutrals are holding their market position without particular difficulty. Movement of lubricating oil against domestic contracts is reported satisfactory, but exports remain at a low level. One Italian tanker loaded a cargo of lubricating oil at Constable Hook the day Italy declared war and it has been anchored in the Hudson River since. Elimination of Italy as a customer for American petroleum products appears inevitable for duration of the war.

Gulf Coast gasoline quotations were off approximately a quarter of a cent, but trading is still dull. Inquiries were reported in the Gulf market for four cargoes of motor fuel, one for offshore movement and three for coastwise shipment. The business had not been closed at the end of the week, according to information in New York.

Tanker rates have been scaled down slightly in recent weeks, particularly for dirty boats. Drop of the demand for fuel oil has caused a slump in the demand for dirty vessels. Dirty boats can be chartered now at 50 cents. The peak was reached toward the end of the winter season when spot charters were negotiated at 62 cents per barrel. Owners are asking around 57 cents for clean boats.

Gulf refiners are asking 4⅛ cents for 72-74-octane, 400 end-point motor fuel, and 60-octane gasoline can be had at 4 cents. Quotations scale upward to 4⅞ cents for 70-octane, unleaded gasoline, 375 end point.

Midsummer temperatures continued last week in the northeastern part of the country and contributed to lifting motor-car operations to a new peak. Most of the large distributors in this section of the country report their volume up by 10 to 15 per cent over last year despite weather conditions which discouraged pleasure driving until 2 weeks ago.

Tank-car gasoline sellers in New York generally are quoting 6 cents for regular motor fuel. Barge loads can be picked up at 5¾ cents per gallon and even this figure can be shaded slightly in certain directions, according to reports in the trade.

Considering the season, demand is said to be reasonably strong for kerosene and other fuel oils. Fuel-oil suppliers anticipate that the industrial demand will enjoy a steady increase as the defense program moves forward. Consequently, there is less disposition to push fuels on the market if price concessions are a prerequisite to making the sale. Kerosene movement is said to be holding up reasonably well in the Pennsylvania district and New York traders say that seacoast conditions are satisfactory.

As has been the case with all countries brought into the European war, Italy's entrance is expected to bring at least a temporary reduction in exports. Italy's direct imports of crude and refined products from this country have been running approximately 14,000 bbl. daily this year. Direct shipments to Italy in 1939 averaged about 17,000 bbl. daily. In April alone, the most recent month for which statistics are available, this country shipped to Italy 372,368 bbl. of crude; 4,864 bbl. of natural gasoline, and 30,774 bbl. of lubricating oil for a combined total of 408,006 bbl. In addition, Italy purchased about 3,000,000 lb. of wax and substantial quantities of coke, asphalt and greases. Italy's participation in the war has far greater significance to the American oil industry than the mere cessation of shipments to that country. It means that in all probability shipments will be completely halted or seriously impaired to all purchasing countries reached through the Mediterranean Sea. None of the countries purchase in comparison to Italy's volume, but grouped together they represent an important position in American petroleum exports.

There has been no evidence to indicate that this country's petroleum exports will now increase to make up for stoppage of shipments from the Near East. This may come later, according to opinion in the industry, but there is no direct evidence to support this theory at the present moment.

At 4⅛ cents the gallon the Gulf Coast gasoline market is considered to have reached an irreducible minimum on the present cost of crude. Many in the industry believe that profitable operation is next to impossible at this price for the chief product. Evidence is stacking up that the summer motoring season will be well advanced before stocks of motor fuel are reduced sufficiently to stimulate prices. Substantial reduction of gasoline inventories started in the week ended June 8 and should continue well into September, but whether it will develop fast enough to bring price adjustments to a more profitable level is a question that is giving the industry's executives sleepless nights. Tank-wagon gasoline prices were lowered a half cent last week in Buffalo where Socony-Vacuum Oil Co., Inc., posted 13.1 cents. The consumer tank-car price at Buffalo was lowered 0.3 of a cent to 12.3. The Rochester tank-wagon price was raised 0.2 of a cent to 13.7 and Portland's was increased a half cent to 13.5.

Effective June 12, Standard Oil Co. of New Jersey increased the dealer tank-wagon price of Esso gasoline ranging from 1.65 to 2.45 cents per gallon at several points in North Carolina. The increase applied to Charlotte, Raleigh and Salisbury where the tank-wagon prices are now 11.4, 11.15 and 11.45 cents per gallon, respectively, exclusive of 7 cents in taxes.

Gulf Coast Markets

HOUSTON, Tex., June 18.—Further uncertainty in the Gulf Coast refined market is created by late developments in the European situation involving the collapse of France. Although it still is too early for market students to form any definite conclusions as to the outcome, it is believed that chances for any increased export business as a result of the war are being delayed, if not greatly diminished.

Reports in Houston that the British-French buying commission had canceled all commitments for petroleum in this country added to the uncertainty, and while it is considered possible that increased demand may materialize from England with the closing of the Mediterranean and with prospects of a shift of fighting to that country, it is felt that France now is definitely out of the market picture for some time to come.

France is believed to have a considerable volume of oil already purchased in storage at Gulf Coast terminals. While that country now may not be in a position to take that oil out, it is believed these purchases may be assumed by England.

In the meantime the present market situation is unchanged. Gasolines continued inactive despite the in-

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A.P.I. Weekly Refinery Statistics

Week Ended June 15, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	23,357,000	8,551,000	8,745,000	590,000
Appalachian	91.0	3,688,000	598,000	343,000	123,000
Ind., Ill., and Ky.	89.5	16,811,000	3,336,000	3,452,000	544,000
Okla., Kans., and Mo.	76.9	7,728,000	2,027,000	1,144,000	282,000
Inland Texas	59.6	1,958,000	1,480,000	289,000	119,000
Texas Gulf	85.3	14,442,000	5,692,000	4,805,000	859,000
Louisiana Gulf	97.6	2,609,000	1,081,000	1,092,000	106,000
N. Louisiana and Ark.	51.5	552,000	471,000	260,000	42,000
Rocky Mountains	55.5	1,515,000	620,000	140,000	54,000
California	87.3	17,950,000	78,348,000	10,116,000	517,000
Total reported	85.1	90,610,000	102,204,000	30,386,000	3,236,000
Est. unreported	.....	7,050,000	2,215,000	1,500,000	384,000
*Est. total	.....	97,660,000	104,419,000	31,886,000	3,620,000
*Est. total previous wk.	.....	99,471,000	104,666,000	30,609,000	3,600,000
*June 16, 1939	.....	82,374,000	111,878,000	29,709,000	3,480,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended June 8, 1940	259,706,000 barrels
Week ended June 1, 1940	261,662,000 barrels
Week ended June 3, 1939	274,692,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling-station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 18, 1940

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Incl. tax	Kero. tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	13.6	12.1	4.0	9.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	12.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	14.5	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.3
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.2	11.7	4.0	9.0
Saginaw	14.2	12.7	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	14.3	5.0	†10.2
South Bend	16.8	15.3	5.0	†10.2
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	12.7	4.0	8.0
St. Joseph	14.4	12.0	4.0	7.9
Wichita, Kans.	13.3	11.6	4.0	7.0

*State tax 2 cents, 1-cent city tax, and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents, 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Cons'r tank wag.	Gasoline: Dividend dir.	Gasoline: Incl. tax	Kero. tank wag.
Ohio points	15.5	14.5	5.0	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Cons'r tank car	Gasoline: Dir. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	8.4
Newark	11.6	12.7	4.0	8.4
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	9.0
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.00	3.0	9.5
Danville, Va.	14.95	17.45	6.0	11.5
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	11.0
Roanoke	15.25	17.75	6.0	11.0
Charles'n, W. Va.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	11.8
Charlotte, N. C.	16.90	18.40	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	18.15	7.0	11.5
Salisbury	16.95	18.45	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	9.25
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	18.80	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore), except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Cons'r tank wag.	Gasoline: Net dir.	Gasoline: Incl. tax	Kero. tank wag.
Atlanta, Ga.	17.5	17.5	7.0	11.0
Augusta	17.0	17.0	7.0	10.0
Macon	14.5	14.5	7.0	10.0
Savannah	16.5	16.5	7.0	9.0
Birmingham, Ala.	17.5	17.5	8.0	9.0
Mobile	18.0	18.0	9.0	8.0
Montgomery	19.0	19.0	9.0	9.0
Jackson, Miss.	16.0	16.0	7.0	10.0
Vicksburg	16.0	16.0	7.0	9.5
Jacksonville, Fla.	16.0	16.0	8.0	8.0
Miami	17.0	17.0	8.0	8.0
Pensacola	18.0	18.0	9.0	8.5
*Tampa	21.0	18.0	8.0	8.0
Lexington, Ky.	15.5	15.5	6.0	10.0
Covington	14.5	14.5	6.0	9.5
Louisville	14.5	14.5	6.0	9.0
Paducah	15.5	15.5	6.0	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Cons'r tank car	Gasoline: Dir. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Albany	11.6	13.6	5.0	7.9
*Met. N. Y.: Manhat., Bronx, Queens, Brklyn., Staten Island	11.7	12.8	5.0	8.2
Buffalo	12.3	13.1	5.0	8.0
Rochester	12.8	13.7	5.0	8.5
Syracuse	12.2	13.4	5.0	8.7
Portland, Me.	11.6	13.5	5.0	8.0
Manchester, N.H.	12.3	12.0	5.0	8.8
Burlington	12.1	14.4	5.0	8.5
Boston, Mass.	10.5	11.5	4.0	8.3
Worcester	11.1	11.6	4.0	8.4
Hartford	10.9	11.5	4.0	8.1
New Haven	10.8	11.8	4.0	8.1
Providence, R. I.	10.5	11.75	4.0	8.3

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and in New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car prices plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline: Cons'r tank car	Gasoline: Dir. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.5
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	13.0	14.5	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	12.5	14.0	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.		14.0	5.0	10.5
Wilmington		13.5	5.0	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank truck	Gasoline: Serv. sta.	Gasoline: Incl. tax	Kero. tank wag.
San Francisco	16.0	17.0	4.0	11.5
Los Angeles	15.5	16.5	4.0	10.0
Fresno, Calif.	17.0	18.0	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	19.0	20.0	5.0	13.5
Portland, Ore.	18.5	19.5	6.0	13.5
Seattle, Wash.	18.5	19.5	6.0	13.5
Spokane	20.0	21.0	6.0	16.5
Tacoma	18.5	19.5	6.0	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Incl. tax	Kero. tank wag.
Denver, Colo.	13.0	...	5.0	10.5
Grand Junction	17.5	...	5.0	12.5
Pueblo	15.0	...	5.0	9.0
Casper, Wyo.	16.5	...	5.0	11.5
Cheyenne	14.0	...	5.0	11.0
Billings, Mont.	18.0	...	6.0	12.0
Butte	16.0	...	6.0	13.0
Great Falls	18.0	...	6.0	12.0
Helena	16.0	...	6.0	12.5
Salt Lake, Utah	15.5	15.5	5.0	14.0
Boise, Idaho	20.1	...	6.0	16.0
Twin Falls	21.1	21.1	6.0	16.5
Albu'que, N. M.	14.5	...	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Cons'r tank car	Gasoline: Dir. tank wag.	Gasoline: Incl. tax	Kero. tank wag.
New Orleans, La.	13.75	16.25	8.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡10.5
Lafayette	15.00	17.50	8.0	‡10.0
Lake Charles	14.75	17.25	8.0	‡10.0
Shreveport	13.50	16.00	8.0	†9.0
Knoxville, Tenn.	18.00	19.50	8.0	12.5
Memphis	16.00	17.50	8.0	11.0
Chattanooga	17.50	19.00	8.0	12.0
Nashville	17.00	16.4	8.0	11.5
Bristol	18.25	17.50	8.0	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Incl. tax.	Kero. tank wag.
Texarkana, Ark.	13.0	5.0	7.0
Fort Smith	14.5	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	12.0	5.0	7.0
Oklahoma City	10.0	5.0	6.5
Tulsa	11.0	5.0	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Incl. tax	Kero. tank wag.
Omaha	16.5	14.9	6.0	9.0
McCook	17.0	13.9	6.0	9.5
Norfolk	17.0	14.9	6.0	9.9
North Platte	17.3	14.5	6.0	10.2
Scottsbluff	17.9	15.0	6.0	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Incl. tax	Kero. tank wag.
Dallas, Tex.	11.0	15.0	5.0	7.0
Fort Worth	11.0	15.0	5.0	7.0
Houston	13.5	17.5	5.0	8.0
San Antonio	12.0	16.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Incl. tax.	Kero. tank wag.
Halifax, N. S.	25.0	10.0	19.0
St. John, N. B.	25.0	10.0	19.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Continental Oil Co. June 7 reduced tank-wagon and dealer gasoline 1 cent in Boise; June 11, advanced tank-wagon and dealer gasoline 1 cent in Pueblo.

Standard Oil Co. of New Jersey June 12 advanced dealer tank-wagon gasoline as follows: Charlotte, 1.90 cents; Raleigh, 1.65 cents; Salisbury, 2.45 cents.

Socony-Vacuum Oil Co., Inc., June 5 reduced consumer tank-car gasoline 0.3 cent and dealer tank-wagon gasoline 0.5 cent in Buffalo; same date, advanced dealer tank-wagon gasoline 0.2 cent in Rochester; May 29, advanced dealer tank-wagon gasoline 0.5 cent in Portland; May 29, reduced tank-wagon kerosene 0.4 cent in Albany; 0.3 cent in metropolitan New York; 0.5 cent in Port-

(Continued on Page 111)

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted.

Prices as of June 18, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅝
63-66 octane	.04⅛	.04⅛
60 octane and below	.03⅝	.03⅞
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04⅝
63-66 octane	.04⅛	.04⅛
60 octane and below	.03⅝	.03⅞

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅝
63-66 octane	.04⅛	.04⅛
60 octane and below	.03⅝	.03⅞
60-62 400	.04⅝	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.05⅛	.05⅜
63-66 octane	.04⅝	.04⅞
60 octane and below	.04¼	.04½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:	
72-74 octane (regular)	.04¾
60 octane and below	.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅜	.04⅞
63-66 octane	.04⅝	.04⅞
60 octane and below	.04	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04⅜	.04⅞
63-66 octane	.04⅝	.04⅞
60 octane and below	.04	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾
58-62 U. S. Motor	.04½	.05

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¾	.07¼
54-58 U. S. Motor	.05½	.06½

EAST COAST (domestic)—

U. S. Motor, 65 and above:	
*New York (Bayonne)	.06
Philadelphia	.06
Boston	.06¼
Baltimore	.06
Charleston, S. C.	.06½

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.04½	.04¾
70-72 octane (leaded)	.04¾	.04½
68-70 octane	.04¼	.04⅝
65-67 octane		.04¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01½
Grade 18-55	.01⅝	.01⅞

NORTH TEXAS—

Grade 26-70	.01¼
Grade 18-55	.01½

CALIFORNIA—

75-85 375-390	.05¼	.05⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.01⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03⅝	.03⅞
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.03⅞	.04
46-48 gr., 210-230 i.b.p., 480-max., e.p.		.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅝	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03⅞	.04

ARKANSAS (Ark. and N. La. del.)—

41-43	.04¼

PENNSYLVANIA (inland refineries)—

47	.05¼	.05⅜
46	.05⅛	.05¼
45	.05	.05⅛

CHICAGO (Based on Group 3)—

42-44	.04	.04⅛
41-43	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43	.05½	.06

GULF COAST (domestic)*—

41-43	.04½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03¾
No. 1 prime white, 38-42	.03½	.03¾
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03⅜	.03½
No. 3 zero to 10, 28-32		.03¼

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03¾
No. 1 straw, 38-40	.03½	.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03¾	.03⅞
No. 1 prime white, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03⅜	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅝

NEW YORK (Bayonne, N. J.)—

*No. 1	.055	.060
*No. 2	.047	.053
*No. 4	.047	.050

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.47½	.52½

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.47½	.52½

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.65	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (inland refineries)—

36-40	.04

CALIFORNIA—

30-40 gas oil, per bbl.	1.15	1.25
24 plus diesel, per bbl.	1.15	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.65	.75
10-16 (cargo lots)	.65	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.15	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03½	.03¾
43-47 diesel	.03⅞	.04
48-52 diesel		.04
53-57 diesel	.04	.04¼
58-and-above diesel	.04¼	.04½
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.72	.80
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04½	.05
28-30 diesel (lighterage 6¼c per bbl.)		1.95
28-30 diesel (tank cars)	.04½	.05
Bunker C (to ocean-going ships in N. Y. Harbor)		1.35
Industrial fuel (tank cars)	.033	.035

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25	.21
150-160 D, 0-10	.17
150-160 D, 10-25	.16½
100-110 D, 0-10	.16
100-110 D, 10-25	.15½
Steam refined:	
600 dark green (untreated)	.07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):	
10 pour point	.20½
15 pour point	.18½
25 pour point	.18
Steam refined:	
600	.11
650	.13
600 flash	.14
630 flash	.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.09½
180-3		.10⅛
200-3		.11
250-3		.12
280-3		.12½
280-4		.12
300-3½		.13
350-3½		.13½
400-3½		.14
500-3½		.15
600-3½		.16
100-2½ paraffin oil, 10-25		.05¾
10-25 pour point:		
200-3		.10½
250-3		.11½
280-3		.12
280-4		.11½

GULF COAST—

Pale oils:		
100-3	.05½	.05¾
200-3	.07¼	.07½
300-3	.07⅝	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09⅝	.10
2,000-4	.10	.10¼
3,000-4	.12¼	.12½
Red oils:		
200-5-6	.07	.07½
300-5-6	.07½	.07⅝
500-5-6	.08¼	.08⅝
750	.08⅝	.09½
1,200-5-6	.09⅝	.09⅝

CALIFORNIA (Moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07½	.08
300-2½-3	.07½	.08
400-3-4	.07½	.08
450-3-4	.07¾	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.23
10 pour point		.22
15 pour point		.21
25 pour point	.19½	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.25½
10 pour point		.24½
15 pour point		.23½
25 pour point	.21½	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.04⅝	.04⅝

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.04⅜	.04½
124-126 (A.m.p.) w.c. scale	.04⅝	.04½

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0630
128-130 (A.m.p.) wax		.0640
130-132 (A.m.p.) wax		.0690
133-135 (A.m.p.) wax		.0685
135-137 (A.m.p.) wax		.0725
Crude scale:		
124-126 (A.m.p.) w.s.	.04⅜	.04½
124-126 (A.m.p.) y.s.	.04⅜	.04½
Petrolatum in barrels, carload lots:		
Dark green	.02625	.03125
Amber	.02875	.03375
Extra amber	.03000	.03625
Lily white	.05125	.05875
Snow white	.06125	.06875
Cream	.04125	.04875

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04	.04¼
60-62 400	.04½	.04⅝
61-63 390	.04¼	.04⅝
64-66 375	.04	.04⅛

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05⅝	.06¼
60-65 octane	.05¼	.05⅝

KEROSENE

GULF COAST—

41-43 water white	.04⅛	.04⅝

LOS ANGELES—

41-43 water white	.05	.05⅛

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.18½	.19½
630 S.R. unfiltered	.19½	.21½
600 flash, S.R.	.20	.22½
630 flash, S.R.	.24½	.25½
Bright stock:		
Light, 25 pour point	.25	.28

NEUTRAL OIL

200-S color	.27	.28
150-3 color	.26	.29

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.06⅝
125-127 A.m.p.		.06⅞
128-130 A.m.p.		.07
133-135 A.m.p.		.07⅜
135-137 A.m.p.		.08⅛
Crude scale:		
124-126 w.s.	.04⅜	.04⅝
124-126 y.s.	.04⅜	.04⅝

EQUIPMENT PROGRESS...

New Fox Diamond Derrick Affords Increased Safe-Load Capacity

The Glenn E. Breeding Co., Key Building, Oklahoma City, Okla., announces the Fox Diamond derrick which, according to the manufacturer, incorporates many improvements. The new arrangement of the diagonal

braces has reduced the unsupported length of the leg column, giving the derrick a greater safe-load capacity using the same dimension of steel. This type of bracing forms a diamond design in the panels with the outer ends of the braces connected to the leg members at a point approximately midway between the girts This provides a brace or support on the leg members approximately every 42 in. throughout the derrick. All braces in any given panel are interchangeable, simplifying and speeding up erection.

Another important improvement is the staggering of the leg joints, accomplished by using two 7-ft. (set diagonally opposite) and two 14-ft. members as the first four running legs. All subsequent running-leg members are 14 ft. except that in topping out the derrick two additional 7-ft. members are required. With this principle applied two leg members are running ahead at each girt level during erection, keeping the derrick in alignment and adding to the rigidity of the structure.

Universal Oil Tool Co. Organized

Universal Oil Tool Co., Houston, Tex., has been organized to do controlled directional drilling, sidetracking, and straightening. The company has in its employ men who have been with the Lewis knuckle-joint since the development of the tool, and they have made controlled drilling a specialty.

TRADE LITERATURE

LUFKIN FOUNDRY & MACHINE CO., Lufkin, Tex.—Spring number of the Lufkin Line. In addition to interesting text, gives illustrations of typical installations of Lufkin pumping units.

U. S. ELECTRICAL MOTORS, INC., 200 East Slauson Avenue, Los Angeles, Calif.—Pamphlet, "Design and Operation of U. S. Single-Phase Motors," prepared by engineering staff.

COCHRANE CORP., Seventeenth Street and Allgheny Avenue, Philadelphia, Pa.—Bulletin 2960 on Cochrane exhaust head.

F. J. STOKES MACHINE CO., Tabor Road, Olney P. O., Philadelphia, Pa.—Bulletin 40-G, Stokes portable high-vacuum gages.

GISHOLT MACHINE CO., Madison, Wis.—24-page catalog of standard tools for Gisholt high-production turret lathes.

WRIGHT-AUSTIN, Detroit, Mich.—Circular 295, Wright-Austin strainers for steam, air, gas, oil, or water.

FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis.—Current issue Truck News, featuring article on engineering advancements in FWD trucks.

ARMSTRONG MACHINE WORKS, Three Rivers. Mich.—Current issue of the Armstrong Trap Magazine

CRANE CO., 836 South Michigan Avenue, Chicago.—12-page bulletin on "tailor made" small steel valves.

CATERPILLAR TRACTOR CO., Peoria, Ill.—Illustrated bulletin, "Power for the Petroleum Industry."

THE PYLE-NATIONAL CO., Chicago.—Bulletin 1150 on switch, fuse, and circuit-breaker Pylet fittings.

THE STAR DRILLING MACHINE CO., Akron, Ohio.—Bulletin 243, the new No. 243 Star spudder.

GENERAL ELECTRIC CO., Schenectady, N. Y.—Bulletins GEA-1412B, vertical solid-shaft induction motors; 1368D, vertical hollow-shaft induction motors; 3223, single-phase vertical motors; 2742A, Pyranol capacitators for low-voltage industrial applications; 3198A, Glyptal No. 1294, for preventing adhesion of weld spatters.

THE BOYER-CAMPBELL CO., 6540 Antoine Street, Detroit, Mich.—128-page catalog (No. 40), "Everything for Safety," equipment for accident prevention.

MEDART CO., 3538 DeKalb Street, St. Louis, Mo.—V-belt drive catalog, giving new belt ratings, which permit more precise and economical selection of V drives.

BAKER OIL TOOLS, INC., Huntington Park., Calif.—Cement Retainer News Service, telling how cement retainers overcome many subsurface handicaps.

Thousands of Wickers Are Picked Up by Grizzly Wire Line Saver

Although developed to save wire lines and prevent such line troubles as bowing and whipping, the Grizzly "No-Wip" line saver has proved its worth as a safety device, according to Walter G. L. Smith, presi-

dent and general manager of E. M. Smith Co., Los Angeles, Calif., manufacturer of the appliance.

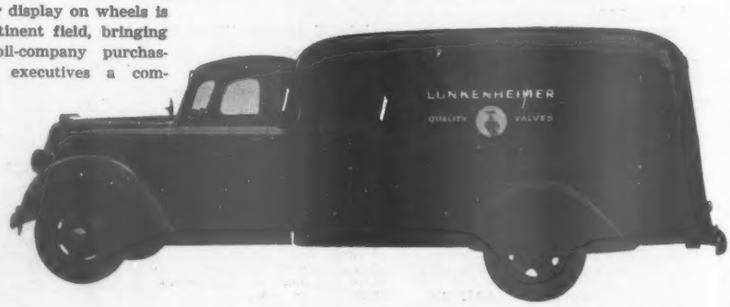
Mr. Smith offers substantial evidence in the form of an unretouched photograph of a rubber roller taken from a line saver that had been in service several months. Even in this illustration, hundreds of wickers of all sizes imbedded in the rubber body are clearly discernible to the naked eye. Each of these wickers is a potential hazard to workmen in the rig if they were not picked up by the rubber rollers, Mr. Smith contends, and might be the cause of impaired or even totally destroyed vision of one or more of the men in the rig.

As wire lines wear, thousands of these wickers are scraped from the strands through contact with various derrick equipment. When the Grizzly line saver is used, however, the wire lines are constantly in contact with the rubber rollers, and the wickers are picked up by these rollers as the illustration shows.

It is claimed by the manufacturer that the Grizzly line saver prevents excessive wear and saves miles of wire lines every year; prevents whipping without straightening or injuring the line; simplifies spooling and prevents piling up at any area on the drum. Bulletin No. 10-OF gives more information.

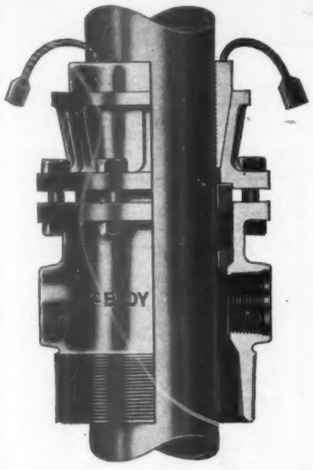
LUNKENHEIMER DISPLAY ON WHEELS TOURS MID-CONTINENT

The Lunkenheimer display on wheels is touring the Mid-Continent field, bringing to the doors of oil-company purchasing and operating executives a comprehensive exhibit of valves and specialties used in the oil industry. A representative of the Lunkenheimer Co., Cincinnati, Ohio, accompanies the exhibit to explain the various products and their application.



Convenience of Slip Suspension Is Brought to Low-Pressure Field

A braden head that brings the convenience of slip suspension to the low-pressure field has been announced by McEvoy Co., Houston, Tex.



This head uses the same body and packing as the familiar Louisiana pattern braden head. The upper flange is provided with a slip bowl so slips may be used to support the casing at any point. This eliminates the necessity for accurate "nippling up" and assures proper load distribution. Split-gland rings are provided to simplify assembly. The entire head is simple and rugged. Known as the McEvoy Type SSA braden head, it is available in all sizes for low and medium-pressure wells.

Lighter-Weight Units Gain Favor

"A study of heavy-duty operations now being conducted in various sections of the country has shown a marked increase in the use of lighter-weight units where formerly only heavy-capacity, standard truck equipment was considered," states A. F. Knoblock, president of the Thornton Tandem Co. "Experiences by contractors and others show that although the investment in equipment is materially reduced with smaller-capacity units fitted with four-rear wheel drive, there is no sacrifice of reliability and speed of doing the job. In fact, often actual gains are made. Similar reports are reaching us from the oil fields and on various grading, excavating and other jobs throughout the country."

Hancock Duravalve Junior Features Integral Construction of Seat

The Hancock Valve Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn., announces a 600-lb. standard steel valve, the Hancock Duravalve Junior.

The main feature is the seat, which is Stellite-welded integrally to the body.

The makers say this integral-seat construction has been selected after 3 years' experience in 1,500-lb. power-plant work. It is said definitely to eliminate any chance of leakage between seat ring and body, as there are no threads to leak. The valve disk is also heavily Stellited to resist wire-drawing and wear.

The makers state that this new valve weighs from ⅛ to ½ less than comparable conventional design valves. It has a body and bonnet of carbon-molybdenum steel, giving it a temperature rating of 950° at 600 lb. steam pressure.

The Hancock Duravalve Junior is available in sizes ¼-in. to 1-in., inclusive, in the globe type, with either screwed or socket welding ends.

Power of Diesel Tractor Increased

Allis-Chalmers Manufacturing Co., Milwaukee, Wis., has increased the drawbar horsepower rating of its Model HD 10 tractor from 71.2 to 79. The maximum speed and drawbar pull also have been increased; the new figures being 6.03 m.p.h. and 18,430 lb., respectively. The Model HD 10 tractor is powered by the G.M. four-cylinder two-cycle diesel engine, which develops 95 hp. at 1,600 r.p.m. on the belt. This tractor is designed for use with 10 to 12-ft.-blade graders, 6 to 10 yd., two or four-wheel scrapers, bulldozers, trailbuilders and other construction tools.

Convertible Shovel-Dragline-Crane Is Offered by Link-Belt Speeder

A powerful 1 to 1¼-yd. convertible shovel-dragline-crane, Model LS-100, is announced by Link-Belt Speeder Corp., 301 West Pershing Road, Chicago. This new model incorporates several advancements, along with a combination of outstanding features of other Link-Belt and Speeder models. The machine is controlled by easy-throw levers and is equipped with a new type of clutch, said to give the "feel" of the load at all times.

Further features are fully enclosed travel brakes controlled from cab fully enclosed traction gears running in oil; a 72-in. diameter machine-finished roller-path, turntable with patented self-aligning rollers; anti-friction bearings throughout; free floating center-pin bearings; and welded steel design for strength and resistance to shock loads and to provide positive alignment of machinery parts.

The manufacturer stresses sturdy construction. The engine is a heavy-duty industrial type gasoline or diesel, of a size usually found in larger units. Track shoes are 24-in. standard (30-in. optional); crawlers are smooth, self-aligning and perfect guiding.

Nordstrom Hypreseal Production Valve Built for Hardest Usage

Designed for extreme conditions of pressure, temperature, and abrasion, the Nordstrom Hypreseal standard production valve, manufactured by Merco-Nordstrom Valve Co., 400 Lexington Avenue, Pittsburgh, Pa., is made of alloy steel for 500 and 7,500-lb. working pressure. It is offered in both round-opening and rectangular-opening types. It makes use of the patented Sealdport method of lubricant distribution, which prevents leakage by the introduction of a plastic, viscous seal of lubricant between the plug and its seat. This construction also protects the working surfaces from the corrosive or erosive action of the line contents. An unbroken seal of lubricant, under pressure, completely surrounds both inlet and outlet ports of the valve.

The valve plug is a separate conical member, accurately fitted to its seat in the body. It is assembled to the body through the bottom opening, which is then closed by a rigid, screwed member or sealing plug. Threads are sealed by a plastic packing material applied through circular grooves cut into this screwed member. The function of holding the valve plug in its seat is performed by a heavy spring plate interposed between the threaded bottom member and the bottom of the valve plug. The spring plate is unaffected by internal pressure and at no time is there any fixed clearance between the plug and the body.

Fairbanks-Morse Redesigns Line of Type Z Single-Cylinder Engines

A completely redesigned line of single-cylinder slow-speed Type Z engines available in four sizes with cylinder displacements of 118, 208, 346, and 503 cu. in. has been announced by Fairbanks, Morse & Co., 600 South Michigan Avenue, Chicago. This new line, designed as the ZC, maintains the outstanding features of the old Type Z engine and is said to incorporate every worthwhile advantage applicable today.

These features include a vapor-phase cooling system, renewable valve seats, oil-impregnated bronze-bushed valve guides, roller bearings, controlled splash lubrication, and internally mounted governor.

Of outstanding importance is the vapor-phase cooling system. A condensing radiator is mounted on top of the cylinder. Steam generated from the water expands into a special expansion chamber and enters the radiator. Air forced through the radiator by the cooling fan condenses this steam to water which is returned to the system. Thus the temperature of the engine is held constant regardless of load or outside temperature and without the use of thermostats or radiator covers. A vent prevents any formation of pressure or vacuum in the radiator.

AMONG EQUIPMENT MEN

Lamberth Appointed Division Head

Hugh R. Lamberth, appointed manager of the cooling-tower division of the Fluor Corp., Ltd., will supervise cooling-tower design, manufacturing and sales. Mr. Lamberth's wide engineering experience has been devoted almost entirely to plant-process problems, involving heat application, recovery and dissipation, in the oil, gas and allied industries.

A native of Dallas, Tex., Mr. Lamberth graduated from the U. S. Naval Academy, Annapolis, but resigned from the Navy after a 3-year tour of duty. Since then he has been associated with nationally known firms. He goes to Fluor from the Southern California Gas Co., where he was engaged in industrial engineering. His headquarters will be at Fluor's Los Angeles, Calif., office.

Manager in Texas and Louisiana

Union Wire Rope Corp., Kansas City, Mo., has made H. R. Cutlip district manager of its Texas and Louisiana territory. His headquarters will be in Houston, Tex. Mr. Cutlip formerly represented Union Wire Rope as district manager of its Fort Worth, Tex., branch, and he is familiar with the wire-rope requirements of the oil industry in his larger field.

BUSINESS NOTES

John B. Reilly, president of Fluid Packed Pump Co., Los Nietos, Calif., attended the international Rotarian convention in Havana, Cuba. Accompanying him were his wife and children. He was installed governor of District 108, to which office he was elected in Long Beach, Calif. Mr. Reilly expected to return to California June 20.

H. R. Carpenter, of the Jarecki Manufacturing Co.'s Bartlesville office, attended a recent meeting at the company's Erie, Pa., plant of branch and district managers to commemorate 50 years of service of A. A. Moody, vice president and general manager of branches.

J. R. Kumer, Jr., has been appointed manager of stainless-bar and wire sales by Allegheny Ludlum Steel Corp., Pittsburgh, Pa.

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NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

FOR complete and accurate coverage of the new Artesia Area, read The ARTESIA (New Mexico) ENTERPRISE. $2 a year.

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. Smith, 215 Littlefield Building, Austin, Texas.

INVESTOR with $1,000 join me on 50-50 basis drilling 320 A. proven gas lease. Gas Cont'd 6c 1,000 ft. Total cost $2,000. Big profits. 3D-710 S. Elgin. Tulsa, Okla.

CASH paid for producing wells. Or will immediately drill proven land. Describe fully or no reply. P.O. Box 93, Tulsa, Ok.

CUMBERLAND—Lot 13, Block 22. Make best offer. Sale or lease. 10 acres each. Carter, Murray, Johnston. H. Urlien, 2646 Central Ave., Minneapolis, Minn.

WELL LOGS. Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

IMMEDIATE DRILLING WANTED on 160-acre semiproven oil lease in Loving County, $10.00 per acre. Can cooperate liberally in equipment and drilling expenses. E. L. Stratton, Pecos, Texas.

LEASES in Clinton sand gas field, Ohio. Depth 2,700, price gas 18c. Berea oil sand 700. Production in both on adjoining farms. A splendid opportunity. L. W. Fierbaugh, 411 Diamond St., Ashland, Ohio.

5 YR. oil loans. $50,000 to $5,000,000. On production, oil payments, royalties, real estate, Low interest. Inquiries invited. L. A. (Pat) Casey, Esperson Bg., Houston; Nat. Bk. Com. Bg., San Antonio; Dan Waggoner Bg., Ft. Worth.

Leases and Drilling Blocks

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

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40 acres and multiples thereof. In the Hot Spots. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
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AND ROYALTIES
If you wish to buy or sell producing or non-producing oil leases or royalties located in West Texas or Eastern New Mexico, Address:
AMERICAN NATIONAL BROKERAGE CO.
Post Office Box 516
Levelland, Texas.

KENTUCKY OIL PRODUCTION
FOR SALE
2 wells fully equipped and producing on 51 acres of land near Fordsville, Kentucky, priced for immediate sale. Write Rietman Company, 905 Atlas Bank Building, Cincinnati, Ohio.

WANTED: Reliable partner to carry half interest 240 acre lease, Kentucky field. 650 to 700 ft. Several wells in area; oil and gas. Others drilling; locations staked for more. Ready market for gas; grand opportunity for 42-gravity oil. Address 907 S.E. Third St., Evansville, Ind.

FOR SALE: Ten-acre oil lease. Might sell land with all oil rights. Friendswood area. Perry and Austin Survey. Submit offers. Owner. N. Stolp, 823 Fourth Ave., Puente, Calif.

HAVE rig ready to start deep test well in Eastern Kansas; good acreage; good proposition; will bear rigid investigation; need financial aid for expenses. C. W. Fleming, Muncie, Kansas.

EAST TEXAS Paluxy-Trinity sand wildcats now drilling others starting shortly afford you chances for quick money. Leases close in. E. CROFT, Proctor, Tex.

FOR SALE: Royalty on 880 acres lying on trend between two producing oil and gas fields, located Barber County, Kansas. Production within two miles. Major company now drilling approximately center tract. Call or write Riley MacGregor, Medicine Lodge, Kansas

Leases and Drilling Blocks

BUYING, SELLING and HANDLING oil production, proven, semi-proven, wildcat royalties and leases, drilling blocks, lands and large loans to owners of these properties. Inspecting and estimating values is and has been my business at this place thirty years. See or write me at Box 13, Alanreed, Gray Co., Texas. E. B. Reeves.

IMMEDIATE delivery, large or small tracts on Lincoln Fold, North Missouri. Ten year, 25-cent rental, all close around five wells now drilling. Price depending on location. J. W. Eddington, Kirksville, Mo.

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JOHN PAUL GIBSON
35 South William St., New York City.

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ZINGERY OIL MAP CO., Fort Worth, Tex.

Addresses Wanted

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For present address of W. D. "Red" Peyton, cable tool driller. Wire collect. Box K-660, The Oil and Gas Journal, Tulsa, Oklahoma.

Investment Wanted

MANUFACTURER or Sales organization to distribute exclusively, a new, radically different, drill bit proved 25% to 65% more efficient than the fish tail, in all formations and depths. Liberal terms. Kless, 414 Stratford St., Houston, Texas.

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PRODUCTION AND DRILLING SUPERINTENDENT with several years' major company experience would like to join independent company, drilling contractor or individual. Can take full charge of your operations. Address Box K-642, The Oil and Gas Journal, Tulsa, Okla.

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YOUNG, vigorous, capable, imaginative, personable executive, now employed, seeks new connection demanding hard work with aggressive Southern or Western organization. Unimpeachable references testify to unusually extensive experience in sales promotion, credit sales, treasury and specialized activities in the oil industry. Address Box K-643, The Oil and Gas Journal, Tulsa, Okla.

SALES ENGINEER
With eight years' oil field experience, wants employment with manufacturer of oil field specialty item in Southwestern territory. 45 years old, married and willing to travel. Salary basis preferred. Address Box K-661, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

PIPING DRAFTSMAN for oil refinery work, capable of making good drawings and having sufficient experience to qualify as checkers. State full experience record, age and salary. Arthur G. McKee & Co., 2422 Euclid Avenue, Cleveland, Ohio.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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FOR SALE: Star #28 beam steam machine lines and tools complete. Box 592, Emporia, Kansas.

FOR SALE: Cable tool drilling machine complete except for tools, including steel derrick and 120 H.P. Clark drilling engine, located near Graham, Texas. Address Box 1098, Shawnee, Okla.

TRACTORS

Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

FOR SALE

10,000 Ft. 2½" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

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FOR SALE CHEAP: Complete rotary drilling rig. Steam powered, completely unitized. Big Spring Iron & Metal Co., Big Spring, Texas.

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W. C. Berry and H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

FOR SALE: 7 ft. x 20 ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

SELLING out stock pipe connections, valves, tools, 18" pipe-threading machine and motor. A. D. Elliott, Depew, Okla.

WANTED: Gasoline plant location. Have complete absorption plant, engines and pipe. Address Box K-653, The Oil and Gas Journal, Tulsa, Okla.

1250 BBL. capacity skimming plant in heart of Illinois oil field, plenty crude supply, plant now in operation. Showing profit. ⅓ cash, balance conditional sales contract to reliable parties. Address Box K-650, The Oil and Gas Journal, Tulsa.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

LONGYEAR Rotocore truck mounted with 45-foot derrick attached, 7¼ x 10 Gardner Denver V-Belt driven powered pump all roller bearings. Complete with slips, blocks, kelly lines and tools ready to drill with or without drill stem. Address Chamber of Commerce, Electra, Tex.

FOR SALE: 150 HP R6U Climax motor with OCS reverse clutch and butane tank; also 110 HP DHK Waukesha motor; also complete string cable tools 18" down with 100 HP twin cylinder FM engine and OCS reverse clutch. Write or call Murray Tool & Supply Co., Tulsa, Oklahoma.

THREE THOUSAND BARREL REFINERY for sale, over sixty thousand barrels storage, about six miles four inch pipeline. Write TOWER REFINING CO., 612 Santa Fe Bldg., Dallas.

FOR SALE: At Oklahoma City, 1 Muskogee Model "B" skid type well service machine with PA-100 International Motor. I. T. I. O. Company, Bartlesville, Okla.

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BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn. Wyo. Free catalog, samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa, Oklahoma.

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Canadian Fields

By VICTOR LAURISTON

CHATHAM, Ont., June 15.—In Southwest Turner Valley Northwest-Hudson's Bay Co.'s No. 3, LSD 15, Section 8-18-2w5, finished in the Madison lime at 8,120 ft., flowed 1,804 bbl. a day through 1-in. choke after acidizing, and has been given allowable of 348 bbl., making it one of the major Turner Valley producers. Location is west of No. 1 producer, with 233 bbl., and a little northwest of No. 2, with 169 bbl. The completion marks a further extension of the producing area to the southwest. Test was drilled by Northwest Co., subsidiary of Imperial Oil, on acreage of the Hudson's Bay Co.

This completion makes a total of 104 crude producers to which allowables have been alloted, of which all except Model Oils Nos. 1 and 2 have been drilled since June 1936 when completion of Turner Valley Royalties' No. 1 opened the west-flank crude development. Eight other crude producers have been completed and are testing for allowables. The lime has been proved from Northwest-Hudson's Bay Co.'s No. 2 on the south to Alberta Oil Incomes' No. 1 on the north, a distance of approximately 16 miles, though there are some untested gaps north of the west-central area.

In Section 20-18-2w5 York Oils' No. 3, LSD 3, finished at 8,034 ft., is testing after acidizing. In Section 17-18-2w5 Royalite Oil Co.'s No. 50, LSD 7, finished at 7,790 ft., is acidizing and testing.

In Section 32-18-2w5 Royal Canadian Oil Co.'s No. 4, LSD 12, bottoming in the Madison at 8,089 ft., flowed 50 bbl. an hour after its first heavy acid treatment. Further acidizing has been completed, and the well is testing for allowable.

In Section 5-19-2w5, west-central area, Royalite's No. 51, LSD 13, is below 7,061 ft., after getting the Madison lime at 6,964 ft.

In Section 6-19-2w5 Kamalta Oils' No. 1, LSD 1, finished in the lime at 8,128 ft., has been given final acid treatment and is testing for allowable.

In Section 7-19-2w5 Royalite's No. 48, LSD 10, finished at 7,533 ft., is testing after acidizing, with indications of a large producer.

In Section 18-19-2w5 Davies Petroleums' No. 5, LSD 10, finished at 7,391 ft., was given a series of acid treatments in both porous zones, and is testing for allowable. Calmont-Northwest's No. 1, LSD 3, same section, finished at 7,609 ft., has been completed, and in testing for allowable made 1,200 bbl. a day through 1-in. choke.

In North Turner Valley Anglo-Phillips' No. 1, LSD 14, Section 15-20-3w5, bottoming at 9,058 ft., has established the water line for the north field at around 9,030 ft., about 4,800 ft. below sea level. A complete shutoff of the lower porous zone will be made, and production taken from the upper zone, where a drill-stem test showed around 750 bbl. a day of water-free crude. Completion of the well has been delayed by fishing for tubing.

In Section 27-20-3w5 Foothills Oil & Gas Co.'s No. 6, LSD 5, is below 7,997 ft. after getting Madison lime at 7,668 ft.

In Section 34-20-3w5 Alberta Oil Incomes' No. 1, LSD 4, is below 6,375 ft., after getting the lime at 6,340 ft. This is the fartherest-north test in the field to get the Madison, which proved considerably higher than in the crude producers farther south.

Mississippi Fields

(Continued From Page 100)

ft. west of C NE Section 2-21n-1w, total depth 5,909 ft., igneous material, dry and abandoned.

Tinsley—Yazoo County

Hassie Hunt's No. 4 A. G. Johnson, C NE NW Section 14-10-3, no gage, Woodruff sand 4,890-4,910 ft., top chalk 4,425 ft. Slick-Urschel Oil Co.'s No. 5 Slick estate, SW cor. SE Section 35-10-3, 1,680 bbl., ¾-in. choke, Woodruff sand 4,732-56 ft., total depth 4,763 ft. Union Producing Co.'s No. 16 J Stevens, C NE NE Section 12-10-3, 552 bbl., 26/64-in. choke, Woodruff sand 4,864-95 ft., total depth 4,963 ft., perforated casing 4,864-80 ft. Union Producing Co.'s No. 3 J. M. Twiner, C NW NW Section 1-10-3, no gage, Woodruff sand 4,874-4,902 ft., set 7-in. casing 4,868 ft., swabbing in. Union Producing Co.'s No. 7 Woodruff, C SE SE Section 13-10-3, 467 bbl., 16/64-in. choke, Woodruff sand 4,848-4,902 ft., total depth 4,944 ft., perforated 4,882-4,900 ft. Whigate Oil Co.'s No. 2 Robertson, S½ NW SE Section 20-10-3, Woodruff sand 5,143-5,288 ft., salt water and abandoned, total depth 5,307 ft.

Tank-Wagon Changes

(Continued from Page 106)

land; 1.1 cents in Manchester, 0.2 cent in Burlington, Boston, and Providence; 0.3 cent in Hartford; May 20, advanced tank-wagon kerosene 0.4 cent in Worcester and 0.6 cent in New Haven; June 5, advanced tank-wagon kerosene 0.1 cent in Buffalo; same date, reduced tank-wagon kerosene 0.1 cent in Syracuse.

Gulf Coast Markets

(Continued from Page 105)

creasing seasonal consumption. There have been no open reductions in quotations that have existed nominally, but it is not doubted that considerable material can be purchased at lower prices on firm orders.

Refiners are encouraged by the fact that owing to some curtailment of crude runs, the storage situation is no worse than it has been.

Fuel oils, gas oils, and diesel oils are slow, but there is no indication of any immediate sharp break in prices. Suppliers, while reported to be shading quotations in some instances, generally are holding out for published prices.

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